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T A B L I C E
DO RACHUNKÓW TRYGNOMETRYCZNYCH
NA ELIPSOIDZIE BESSEL'A

przez
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T A B L E S
FOR TRIGONOMETRICAL COMPUTATIONS
ON BESSEL'S SPHEROID

by
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Wstęp.

Poniższe tablice funkcyjne, mające służyć do rozwiązywania podstawowych zadań trygonometrii na elipsoidzie obrotowej (t.zw. zadanie główne w formie zwykłej i odwróconej) przy pomocy współrzędnych geograficznych, opracowane zostały w oparciu o następujące założenia:

- 1) dokładność rachunku ma wynosić:
 ± 0.0001 dla współrzędnych geograficznych (φ, λ)
 $\pm 0.001\text{m}$ dla iloczynów długości linii geodezyjnej przez $\cos$ i $\sin$ azymutu.
- 2) długości linii geodezyjnych nie przekraczają 100km .
- 3) zakres stosowalności tablic rozciąga się od $\varphi = 48^\circ$ do $\varphi = 56^\circ$ *)

Schemat pracy przy obliczeniu wartości funkcji podanych w tablicach był pokrońce następujący:

- a) wartości funkcji, odpowiadające wartościom argumentu równym całkowitej liczbie stopni kątowych, obliczano wzorami ścisłymi **) z wyższą od założonej dokładnością.
- b) zagęszczanie otrzymanych tak tablic funkcyjnych odbywało się w drodze interpolacji bezpośredniej - t.zn. przez operowanie bezpośrednio wartościami funkcji a nie ich różnic - przy takim oczywiście obraniu rzędu interpolacji, aby spełnić założenia (1).

Jakkolwiek takie postępowanie powodowało konieczność stosowania w niektórych wypadkach nawet interpolacji Trzędu było jednak ekonomiczniejsze od obliczenia funkcji wzorami ścisłymi. Wynikało to ze skomplikowanej formy algebraicznej obliczanych funkcji, oraz - zwłaszcza przy obliczaniu współczynników „zadania odwrotnego” - z małej zbieżności odnośnych szeregów.

Wartości współczynników zadania wprost (t.zw. szeregi Legendre'a) brano pod postacią formalną przyjętą w Handbuch der Vermessungskunde Jordana, t.zn. z wprowadzeniem pojęcia funkcji podstawowej (Grundfunktion) $V = 1 - e^2 \cos^2 \varphi$.

Wartości współczynników zadania odwrotnego wyrażono w funkcji współczynników zadania wprost („zagadnienie odwrócenia szeregu”), opierając się przy tym częściowo również na Jordanie.

Calkowite wykorzystanie szeregów podanych przez Jordana było z uwagi na błędy algebraiczne - prawdopodobnie charakteru drukarskiego - niemożliwe.

Surowe założenia dotyczące dokładności (t.2) spowodowały konieczność nowego obliczania niektórych potęg funkcji podstawowej V , gdyż oparcie się o odnośne wartości podane u Jordana w formie logarytmicznej nie dawałyby gwarancji spełnienia omawianych założeń.

*) Przyjęcie zakresu stosowalności tablic w granicach szerokościowych obecnych od $\varphi = 49^\circ$ do $\varphi = 54^\circ$ prowadziłoby do przekroczenia dorobku geodezyjnego lat 1918 - 1939 i zmusiłoby do traktowania fragmentarycznego jednolitej koncepcji matematycznych, jakimi są sieci triangulacyjne.

**) Dla podkreślenia konwencjonalnego charakteru rozróżnienia wzoru ścisłego od interpolacyjnego użyliśmy cudzysłowu. Różnica między obliczeniem wartości funkcji z szeregu potęgowego a z interpolacji nie polega w istocie na różnicy ścisłości, lecz na oparciu się o inne dane - w pierwszym wypadku: jedna wartość funkcji i $n-1$ pochodnych, w drugim: n wartości funkcji.

Na zakończenie niniejszego wstępu pozwalam sobie złożyć serdeczne podziękowanie p. Rektorowi Politechniki Warszawskiej prof. Edwardowi Warchałowskiemu za wskazówki w pracy, jak i słowa zachęty. Również p. inż. Jerzemu Szymońskiemu za współpracę przy interpolacyjnym zagęszczaniu tablic składam na tym miejscu serdeczne podziękowanie

Stefan Hausbrandt

Wskazówki dotyczące techniki wykonania obliczeń.

Przy prowadzeniu obliczeń należy pamiętać, że zasada rachunku arytmometrycznego jest: jak najmniej zapisywać. W myśl tego nie należy więc zapisywać wartości poszczególnych iloczynów w szeregach potęgowych 2 i 5, a przygotować do rachunku czynniki, poczym mnożyć kolejno, jednocześnie sumując, tj. nie kasować licznika rezultatów, aż do ukończenia obliczenia danej funkcji.

Przygotowując do rachunku czynniki wygodnie jest postąpić jak następuje:

Rozpocząć od wpisywania pierwszych potęg

$$x = \quad y = \quad \text{względnie } \Delta \varphi = \quad \Delta h =$$

Następnie ustawić w liczniku nastawień pierwszą potęgę jednej ze zmiennych i pomnożyć ją przez wartość zapisaną, poczym zapisać rezultat, pomnożyć przez wartość ostatnio zapisaną, zapisać rezultat, pomnożyć przez wartość ostatnio zapisaną, zapisać rezultat i t.d.

Otrzymamy w ten sposób - nie nie kasując w liczniku nastawień - kolejne potęgi zmiennej.

$$\begin{array}{l} x \\ x^2 \\ x^3 \\ x^4 \end{array}$$

Odczytywać stałe tesame ilości znaków dziesiętnych za przecinkiem, a więc np:

$$\begin{array}{ll} x = -0.62152592 & \Delta \varphi_1 = 0.20324579 \\ x^2 = +0.38629447 & \Delta \varphi_2 = 0.04130885 \\ x^3 = -0.24009203 & \Delta \varphi_3 = 0.00839585 \\ x^4 = +0.14922342 & \Delta \varphi_4 = 0.00170642 \end{array} \quad \text{lub}$$

Dalszy przebieg obliczeń zależy od tego czy „czynniki tablicowe” - jak będziemy dalej nazywali wielkości $\odot \odot \odot \dots$ względnie $\odot \varphi \odot h \odot \varphi \odot h \dots$ - dla danego argumentu φ występować będą w zadaniu jednokrotnie, czy wielokrotnie, tj. biorąc rzecz praktycznie - czy prace rachunkowe dotyczą pojedynczej linii geodezyjnej z punktem początkowym φ , czy też pęku linii geodezyjnych wychodzących z wierzchołka φ .

W wypadku pojedynczej linii najpraktyczniej postąpić i.n.

1) Pasek kartonu o jednym wymiarze równym szerokości tablicy, zaś drugim równym sątem, położyć na tablicy, z której brać mamy czynniki tablicowe, poczym przeliniować pasek liniami pionowymi tak, aby podzielić go na kolumny o szerokościach, odpowiadających szerokościom kolumn tablicy.

2) W utworzonych tak polach paska wpisywać kolejno odpowiednie potęgi i iloczyny potęg patrząc na tytułowy wiersz tablicy i ułożoną uprzednio tabliczkę potęg.

3) Po wypełnieniu całego paska nasunąć go na tę linię tablicy, która zawiera czynniki tablicowe dla najbliższej szerokości geograficznej z niedomiarem, poczym wykonać mnożenia i sumowania, ustawiając w liczniku nastawień liczbę napisaną na pasku i mnożącą przez liczbę wydrukowaną poniżej w tablicy. Po wykonaniu rachunku (uwaga na znaki!) zapisać rezultat oznaczając że jest to wartość poszukiwanej funkcji dla argumentu φ (φ z niedomiarem)

4) Po skasowaniu rezultatu przesunąć pasek wiersz niżej i obliczyć analogicznie wartość poszu-

kiwanej funkcji dla argumentu φ (φ z nadmiarem).

§ Zotrzymanych wartości funkcji dla argumentu φ_1 i φ_2 - oznaczmy je przez f_1 i f_2 - wyinterpolować poszukiwaną wartość funkcji dla argumentu φ - oznaczmy ją f .

Najwygodniej przytem posługiwać się interpolacją bezpośrednią, to znaczy pomnożyć wartość funkcji od argumentu z niedomiarem przez spełnienie ułamka interpolacyjnego do jedności,³⁾ oraz wartość funkcji od argumentu z nadmiarem przez ułamek interpolacyjny i ze sumować rezultaty. Działanie to, które wyraża wzór:

$$f = (1-k)f_1 + kf_2$$

wykonywujemy oczywiście bezpośrednio na aryltmometrze.

W wypadku pęku (linii geodezyjnych) wygodniej jest wyinterpolować dla szerokości geograficznej wierzchołka pęku wartości czynników tablicowych, poczym przeprowadzić jednokrotny już rachunek wzdłuż każdego z promieni pęku.

Dla wyinterpolowania wartości czynników tablicowych najlepiej przytem posługiwać się też interpolacją bezpośrednią, która sprowadzi się do wpisania na skrawku kartonu spełnienia ułamka interpolacyjnego do jedności, oraz poniżej samego ułamka interpolacyjnego i przesuwaniu tego skrawka $\left[\frac{1-k}{k} \right]$ w kierunku wierszy dla kolejnego wykonywania mnożenia $\frac{(1-k)f_1}{k}$.

Uwaga

W stosunku do wszystkich wyrażeń szeregów potęgowych (2), (3) z wyjątkiem wyrażeń ⑤ i ⑥ interpolacja liniowa daje rezultaty identyczne (w granicach założonej dokładności 0,0001 i 0,001m) z interpolacją rzędów wyższych. Interpolując wartość wyrażu ⑤ względnie ⑥ przy pomocy interpolacji liniowej narazić się możemy na obniżenie dokładności rezultatu, dochodzące w krańcowym wypadku (przy 100klm. linii geodezyjnej) do 0,0003 względnie 0,001m.

Jeżeli jest to niepożądane należy wprowadzić mało kłopotliwą poprawkę interpolacyjną⁴⁾ sprowadzającą się do zmniejszenia wyrażu ⑤ o wielkość p , względnie do zwiększenia wyrażu ⑥ o wielkość q . Wielkość p i q znajdujemy z odpowiednich tabliczek - z prawej strony tablicy głównej - według argumentu k (ułamka interpolacyjnego).

Można też wprowadzić poprawkę do rezultatu obliczenia t.jn poprawić obliczony przyrost długości Δk (zadanie 1) o wielkość p , y, względnie poprawić obliczoną składową y (zadanie 2) o wielkość q , Δk . Poprawki te są zresztą tak mało realnymi wielkościami, że i ich zupełne pomijanie miałoby logiczne uzasadnienie - tymbardziej, że linie geodezyjne długości rzędu 100klm. spotykają się wyjątkowo. W przykładach liczbowych operujemy liniami geodezyjnymi nieco przekraczającymi 100klm, i wprowadzamy wyżej omówione poprawki interpolacyjne.

³⁾ Wielkość k nazywana tu i dalej „ułamkiem interpolacyjnym” jest stosunkiem różnicy między wartością argumentu daną i tablicową z niedomiarem do różnicy między wartością argumentu tablicową z nadmiarem i z niedomiarem $k = \frac{\varphi - \varphi_1}{\varphi_2 - \varphi_1}$. Interpolując np. z naszych tablic dla $\varphi = 49^\circ 15' 20''$ mieć będziemy $k = \frac{20}{60} = 0,333333 \dots$ t.j.

Przykłady liczbowe.

Zadanie 1

Dane $\left\{ \begin{array}{l} \varphi_p = 50^\circ 45' 10.2709'' = 50^\circ 45.171182'' \text{ t.z przy interpolacji } k = 0.171182 \quad l-k = 0.828818 \\ S_p = 103275.242 \text{ m} = 103275.242 \text{ sk. (setek kilometrów)} \\ A_1 = 127^\circ 0' 0'' \text{ czyli } \cos A_1 = -0.601815024 \\ \sin A_1 = +0.798635508 \end{array} \right.$

Obliczenie składowych $x = S \cos A = -0.62152592$ $y = S \sin A = +0.82479275$
 i ich potęg $x^2 = +0.38629447$ $y^2 = +0.68028308$
 $x^3 = -0.24009203$ $y^3 = +0.56109255$
 $x^4 = +0.14922342$ $y^4 = +0.46278507$
 $x^5 = -0.09274622$ $y^5 = +0.38170177$

Obliczenie przyrostu szerokości (podajemy rysunek paska  na odpowiednim fragmencie tablicy dla uzmystowienia przebiegu obliczeń. Przepisywanie fragmentu tablicy jest oczywiście przy wykonaniu praktycznym zbędne.)

$\varphi. 50^\circ$	(x)	(y)	(xy)	(x ²)	(x ² y)	(y ²)	(x ³)	(xy ²)	(x ⁴ y)
	-0.62152592	0.82479275	-0.51263007	0.38629447	-0.24009203	0.68028308	-0.24009203	0.56109255	-0.16333055
45'	3236.51327	30.99508	-0.72132	-0.25011	-0.01643	0.00348	0.00053	0.00024	-0.00038
46'	3236.50400	31.01337	-0.72202	-0.25008	-0.01645	0.00348	0.00053	0.00024	-0.00038

$$\left. \begin{array}{l} \Delta \varphi_{50'45''} = 2032.45679 \quad 0.828818 \\ \Delta \varphi_{50'46''} = 2032.46317 \quad 0.171182 \end{array} \right\} \Delta \varphi = 2032.45788 = -33' 52.4579''$$

$$\varphi. 50^\circ 45' 10.2709''$$

$$\varphi_p = 50^\circ 45' 17.8130'' = 50^\circ 45' 17.8130''$$

$$K = 0.296883$$

$$l-k = 0.703117$$

Obliczenie przyrostu długości (uwaga j. wyżej)

$\varphi. 50^\circ$	(y)	(x)	(x ² y)	(y ²)	(x ³ y)	(xy ²)	(x ² y ²)	(x ⁴ y)	(y ³)
	0.82479275	-0.62152592	0.31861288	0.68028308	-0.19802617	0.34873356	0.21674695	0.12307839	0.38170177
45'	5101.63400	97.71352	2.28911	0.62385	0.05180	-0.04382	-0.00200	0.00119	0.00017
46'	5103.44632	97.80620	2.29214	0.62481	0.05189	-0.04391	-0.00201	0.00119	0.00017

$$\left. \begin{array}{l} \Delta \lambda_{50'45''} = 4158.08395 \quad 0.828818 \\ \Delta \lambda_{50'46''} = 4159.33167 \quad 0.171182 \end{array} \right\} \Delta \lambda = 4158.33177 \text{ lub jeżeli uwzględnić poprawkę p.y.}$$

$$\text{popr. p.y.} = -0.00003$$

$$\Delta \lambda = 4158.33174 = 1^\circ 09' 18.3317''$$

$$\lambda_1 = 22^\circ 20' 15.00''$$

$$\lambda_2 = 23^\circ 29' 33.3317''$$

Obliczenie azymutu l. geod. 1-2 w punkcie 2.

$$\left. \begin{array}{l} \varphi_1 = 5101.63400 \quad 0.828818 \\ \varphi_2 = 5103.44632 \quad 0.171182 \end{array} \right\} = 5101.944237$$

$$\text{p.p.} = -0.00011$$

$$5101.94413$$

$$\left. \begin{array}{l} \varphi_1 = 5041.02591 \quad 0.703117 \\ \varphi_2 = 5042.78086 \quad 0.296883 \end{array} \right\} = 5041.546925$$

$$\text{p.p.} = -0.00018$$

$$5041.54674$$

$$y_2 = y_1 \frac{\varphi_2}{\varphi_1} = \frac{0.82479275 \cdot 5041.54674}{5101.94413} = 0.81502876$$

$$x_2 = \sqrt{S^2 - y_2^2} = -0.63427571$$

$$A_2 = \arctg \frac{0.81502876}{-0.63427571} = -1.28497552 \quad A_2 = 127^\circ 53' 27.397''$$

Zadanie 2

Dane $\left\{ \begin{array}{l} \varphi_1 = 50^\circ 45' 10.2709 \quad k = 0.171182 \quad 1-k = 0.828818 \\ \varphi_2 = 50^\circ 11' 17.8130 \quad k = 0.296883 \quad 1-k = 0.703117 \end{array} \right. \left\{ \begin{array}{l} \lambda_1 = 22^\circ 20' 15.00 \\ \lambda_2 = 23^\circ 29' 33.3317 \end{array} \right.$

Obliczenie $\Delta \varphi = -33^\circ 52' 45.79 - 2032' 45.79 = -0.20324579$ dz. l.s. $\Delta \lambda = 1^\circ 09' 18.3317 = 4158.3317 = +0.41583317$ dz. l.s.
 przyr. $\Delta \varphi^1 = +0.04130885$ $\Delta \lambda^1 = +0.17291723$
 potęg. $\Delta \varphi^2 = -0.00839585$ $\Delta \lambda^2 = +0.07190472$
 $\Delta \varphi^3 = +0.00170642$ $\Delta \lambda^3 = +0.02990037$

Obliczenie składowej x (podajemy rysunek paska na odpowiednim fragmencie tablicy 2 dla uzmystowienia przebiegu obliczeń. Przepisywanie fragmentu tablicy jest oczywiście przy wykonaniu praktycznym zbędne).

$\varphi = 50^\circ$	$\Delta \varphi$	$\Delta \lambda^1$	$\Delta \lambda^2$	$\Delta \varphi \Delta \lambda^1$	$\Delta \varphi^2$	$\Delta \varphi^2 \Delta \lambda^1$	$\Delta \lambda^3$
	- 0.20324579	0.17291723	0.04130885	- 0.03514470	- 0.00839585	0.00714301	0.02990037
45'	308 974. 478	3679. 568	73. 774	- 169. 170	- 0. 449	- 5. 636	- 0. 153
46'	308 975. 364	3679. 135	73. 766	- 169. 308	- 0. 450	- 5. 635	- 0. 153

$x_{\varphi_{50'45'}} = -62152.5492 \quad 0.828818$
 $x_{\varphi_{50'46'}} = -62152.7997 \quad 0.171182 \quad \left\{ \begin{array}{l} x = -62152.592 \text{ m} \end{array} \right.$

Obliczenie składowej y (uwaga j. m.)

$\varphi = 50^\circ$	$\Delta \lambda$	$\Delta \varphi \Delta \lambda$	$\Delta \lambda^2$	$\Delta \varphi^2 \Delta \lambda$	$\Delta \varphi \Delta \lambda^2$	$\Delta \varphi^2 \Delta \lambda^2$
	0.41583317	- 0.08451634	0.07190472	0.01717759	- 0.01461433	- 0.00349127
45'	196015. 629	- 11600. 019	- 46. 048	- 155. 932	0.891	- 0.005
46'	195946. 020	- 11602. 808	- 46. 054	- 155. 878	0.894	- 0.005

$y_{\varphi_{50'45'}} = 82464.1889 \quad 0.828818$
 $y_{\varphi_{50'46'}} = 82455.4794 \quad 0.171182 \quad \left\{ \begin{array}{l} y = 82479.2744 \\ \text{popr. } \Delta \lambda_2 \quad 0.0005 \\ y = 82479.275 \text{ m.} \end{array} \right.$

Obliczenie azymutu na punkcie początkowym i długości linii.

$R_1 = \arctg \frac{82479.275}{-62152.592} = 1.32704482 \quad R_1 = 127^\circ 00'$

$S = \sqrt{x^2 + y^2} = 103275.242 \text{ m.}$

Obliczenie azymutu l. geod. 1-2 w punkcie. 2

$\Delta \lambda_1 = \frac{196015.629 \cdot 0.828818}{195946.020 \cdot 0.171182} = \frac{196003.7132}{196003.714} \quad \Delta \lambda_2 = \frac{193372.319 \cdot 0.703117}{193303.283 \cdot 0.296883} = \frac{198351.8234}{198351.825}$

$x_2 = \frac{y \cdot \Delta \lambda_1}{\Delta \lambda_2} = \frac{82479.275 \cdot 196003.714}{198351.825} = 81502.876$

$x_2 = \sqrt{S^2 - y_2^2} = -63427.571$

$R_2 = \arctg \frac{81502.876}{-63427.571} = \arctg -1.28497552 \quad R_2 = 127^\circ 53' 27.397$

Introduction.

These mathematical tables, designed for the solution of the basic trigonometrical problems on the ellipsoid of revolution (the so-called direct and inverse principal problems) from geographical coordinates, have been made to comply with the following conditions:

1) *The accuracy of the calculations should be:*

± 0.0001 *for the geographical coordinates (φ and λ),*

± 0.001 *m for the products of the length of the geodesic by the cosine and the sine of the azimuth.*

2) *The lengths of the geodesics do not exceed 100 km.*

3) *The scope of applicability of the tables ranges from $\varphi = 48^\circ$ to $\varphi = 56^\circ$ *)*

The course followed in calculating the values of the functions given in the tables has been briefly this:

a) *The values of the functions for integer arguments of degrees have been calculated by means of „exact“ formulae **) with an accuracy higher than stipulated above.*

b) *The filling up of the tables thus obtained has been carried out by direct interpolation by using the values of functions directly and not their differences – the order of interpolation being chosen so, that the conditions (1) are satisfied.*

Although this method led us in some cases to interpolation with the seventh differences, it has been more economical than the calculation of the functions by means of „exact“ formulae, owing to the complicated form of the functions and – especially if calculating the coefficients of the „inverse problem“ – owing to the poor convergence of the corresponding series.

The coefficients of the direct problem (the so-called Legendre's series) have been taken from Jordan's Handbuch der Vermessungskunde, and thus the function $V = 1 + e^2 \cos^2 \varphi$ has been introduced.

The coefficients of the inverse problem have been expressed in functions of the coefficients of the direct problem („problem of the inversion of a series“) also partly based on Jordan's work. Full use of the Jordan's series was not possible for the algebraic mistakes due probably to printers' errors.

High requirements of accuracy (conditions 1 and 2) made necessary a new calculation of some powers of the fundamental function V , as reliance on Jordan's values would not satisfy such requirements.

*) *To accept the limits of applicability of these tables within the latitudes from $\varphi = 49^\circ$ to $\varphi = 54^\circ$ would mean wasting the whole achievement of geodesy in the years 1918 – 1939 and would compel us to treat such uniform mathematical conceptions as triangulation nets, in a fragmentary way.*

**) *To emphasize the conventional character of the distinction between an „exact“ formula and an interpolation formula, the inverted commas have been used. The difference between calculating the value of a function by a power series and by interpolation formula does not*

consist in the difference of accuracy, but in the use of different data – in the first case: one value of the function and $n - 1$ derivatives, in the second: n values of the function.

————— . . . —————

Concluding this introduction I should like to express my sincere thanks to Prof. Dr. Edward Warchatowski, Rector of the Polytechnic University of Warsaw, for his valuable suggestions and his words of encouragement.

Lastly I wish to offer my sincere thanks to Mr. George Szymoński, civil engineer, for his collaboration in filling up the tables by interpolation.

Stefan Hausbrandt

General Explanations.

The tables serve for the solution of the following problems on Bessel's ellipsoid:

Problem 1

Given the geographical coordinates: latitude φ_1 and longitude λ_1 of the beginning A_1 of an arc of a geodesic, the length S of the geodesic and its azimuth A_1 at the beginning. Find the increments of the geographical coordinates $\Delta\varphi$, $\Delta\lambda$ and the azimuth A_2 of the geodesic at the end point A_2 .

Problem 2

Given the geographical coordinates of two points: φ_1 , λ_1 and φ_2 , λ_2 . Find the length S of the arc of the geodesic joining these two points and the azimuths of the geodesic at the initial point A_1 and at the end point A_2 .

The length S of the arc of the geodesic joining the two points mentioned in this problem we shall call henceforth the length of the geodesic. The products of this length by the cosine and by the sine of the azimuth at the end point we may call the components of the geodesic at the end point. Denoting the components by x and y respectively we may write:

$$\left. \begin{aligned} x_1 &= S \cos A_1 \\ y_1 &= S \sin A_1 \end{aligned} \right\} \text{components at the initial point,} \quad \left. \begin{aligned} x_2 &= S \cos A_2 \\ y_2 &= S \sin A_2 \end{aligned} \right\} \text{components at the end point,} \quad \dots\dots\dots 1$$

For the solution of Problem 1 we use the well known Legendre's series. Substituting the variables x and y for the variables S and A , the series will take the form:

$$\left. \begin{aligned} \Delta\varphi &= (x)(x + (y^2)y^2 + (xy^2)x^2y^2 + (x^2y^2)x^2y^2 + (y^4)y^4 + (x^2)x^2 + (xy^2)x^2y^2 + (x^3y^2)x^3y^2 \\ \Delta\lambda &= (y)(y + (xy)x^2y + (x^2y)x^2y + (y^3)y^3 + (x^3y)x^3y + (xy^2)x^2y^2 + (x^2y^2)x^2y^2 + (x^4y)x^4y + (y^3y^3) \end{aligned} \right\} \dots\dots\dots 2$$

where: $\Delta\varphi$ and $\Delta\lambda$ denote the increments of the geographical coordinates along the geodesic,

$$\text{i. e. } \Delta\varphi = \varphi_2 - \varphi_1, \quad \Delta\lambda = \lambda_2 - \lambda_1,$$

x and y - the components of the geodesic at the initial point and $(x)(y)(y^2) \dots\dots$ in the general form: $(x^i y^k)$ the coefficients (dependent on the latitude of the initial point) by which the corresponding powers of the components $x^i y^k$ are to be multiplied.

The numerical values of the coefficients are given in Table 1; it should be remembered that if the increments of the geographical coordinates are to be obtained in seconds of arc the components should be given in hundreds of kilometers, e. g. the length 10254.75 m must be expressed by the number 0.1025475, etc.

The azimuth of the geodesic at the end point will be determined from the ratio of the components at that point:

$$A_2 = \arctg \frac{y_2}{x_2} \quad \dots\dots\dots 3$$

To find the components at the end point we use

$$\left. \begin{aligned} \text{the proportion } \frac{y_2}{y_1} &= \frac{(y_2)}{(y_1)} \text{ whence } y_2 = y_1 \frac{(y_2)}{(y_1)} \\ \text{and the relation } x_2 &= \sqrt{S^2 - y_2^2} \end{aligned} \right\} \dots\dots\dots 4$$

(The proportionality of the components y to their corresponding coefficients (y) results from

the well known property of a geodesic on a surface of revolution, namely the constancy of the product: the sine of the azimuth by the radius of the parallel.)

For the solution of Problem 2 we use the series, that can be obtained from transformed Legendre's equations (2), by solving them for x and y .

$$\left. \begin{aligned} x &= (\Delta\varphi) \Delta\varphi + (\Delta\lambda^2) \Delta\lambda^2 + (\Delta\varphi^2) \Delta\varphi^2 + (\Delta\varphi\Delta\lambda^2) \Delta\varphi\Delta\lambda^2 + (\Delta\varphi^3) \Delta\varphi^3 + (\Delta\varphi^2\Delta\lambda^2) \Delta\varphi^2\Delta\lambda^2 + (\Delta\lambda^4) \Delta\lambda^4 \\ y &= (\Delta\lambda) \Delta\lambda + (\Delta\varphi\Delta\lambda) \Delta\varphi\Delta\lambda + (\Delta\lambda^3) \Delta\lambda^3 + (\Delta\varphi^2\Delta\lambda) \Delta\varphi^2\Delta\lambda + (\Delta\varphi\Delta\lambda^3) \Delta\varphi\Delta\lambda^3 + (\Delta\varphi^3\Delta\lambda) \Delta\varphi^3\Delta\lambda \end{aligned} \right\} \dots\dots\dots 5$$

x and y denote here the components of the geodesic at the initial point, i.e.

$$x = S \cos A_1,$$

$$y = S \sin A_1,$$

$\Delta\varphi$ and $\Delta\lambda$ - the increments of the geographical coordinates from the initial point to the end point,

$$\Delta\varphi = \varphi_2 - \varphi_1,$$

$$\Delta\lambda = \lambda_2 - \lambda_1;$$

lastly $(\Delta\varphi)$, $(\Delta\lambda)$, $(\Delta\varphi\Delta\lambda)$ in the general form $(\Delta\varphi^i \Delta\lambda^k)$ denote the coefficients (dependent on the latitude of the initial point) by which the corresponding powers of the increments $\Delta\varphi^i \Delta\lambda^k$ should be multiplied.

The numerical values of the components are given in Table 2: it should be remembered that if the value of the components is to be obtained in metres the increments should be given in tens of thousand of the seconds of arc, e.g. the increment of 1° should be expressed by the number 0,36000000.

The computation of the series (5) leads us to the values of the components x_1, y_1 , from which we can easily obtain the length of the geodesic:

$$S = \sqrt{x_1^2 + y_1^2},$$

and the azimuth at the beginning of the geodesic:

$$A_1 = \text{arc. tg. } \frac{y_1}{x_1} \dots\dots\dots 6$$

To find the azimuth at the end we can use the proportion: *)

$$\left. \begin{aligned} \frac{y_2}{y_1} &= \frac{(\Delta\lambda_1)}{(\Delta\lambda_2)} \text{ whence } y_2 = y_1 \cdot \frac{(\Delta\lambda_1)}{(\Delta\lambda_2)} \end{aligned} \right\} \dots\dots\dots 7$$

and the relation: $x_2 = \sqrt{S_2^2 - y_2^2}$,

$$\text{from which we obtain } A_2 = \text{arc. tg. } \frac{y_2}{x_2} \dots\dots\dots 8$$

*) The proportionality of the components to the reciprocals of the coefficients $(\Delta\lambda)$ results from the following property of a geodesic on a surface of revolution: the product of the sine of the azimuth by the radius of the parallel is constant.



Hints concerning the Technique of Computation.

While computing it should be remembered that the principle of machine computing is this: to record in writing as little as possible. Thus it is not advisable to write down the values of particular products of the power series 2 and 5; all the factors should be prepared in advance, then multiplied in turn and summed up simultaneously, i.e. the product register should not be cleared until the calculation of the function is completed.

The following is a convenient method of preparing the factors for calculation:

First write down the terms of the first order:

$$x = \quad y = \quad \text{or} \quad \Delta\varphi = \quad \Delta\lambda =$$

Then set in the setting-register the term of the first order of one of the variables and multiply it by the value written down; write down the result, multiply it by the value last written; write down the result, multiply it by the value last written; write down the result, etc.

In this way you will obtain - without clearing the setting register the successive powers of the variable,

$$x$$

$$x^2$$

$$x^3$$

$$x^4$$

Take always the same number of decimals e.g.

$$x = -0.62152592$$

$$x^2 = +0.38629447$$

$$x^3 = -0.24009203$$

$$x^4 = +0.14922342$$

or

$$\Delta\varphi = -0.20324579$$

$$\Delta\varphi^2 = +0.04130885$$

$$\Delta\varphi^3 = -0.00839585$$

$$\Delta\varphi^4 = +0.00170642$$

The further course of the calculation depends on whether the „table factors” $(x)(y)(xy) \dots$ and $(\Delta\varphi)(\Delta\lambda)(\Delta\varphi\Delta\lambda) \dots$ for a given argument φ will appear in the problem once only, or several times, i.e. whether the calculation concerns a single geodesic or a pencil of geodesics through the vertex φ .

In the case of a single geodesic the most practicable method is this.

- 1) Take a strip of cardboard, 1 cm wide, its length being equal to the width of the table of functions. Place the strip on the table from which you are to take the „table factors”, then rule the strip with vertical lines so as to divide it into columns corresponding to those of the table.
- 2) In the spaces thus obtained on the strip write down successively the corresponding powers and the products of the powers, consulting all the time the headings of the table and the previously prepared table of powers.
- 3) Having filled up the whole strip, place it over that line of the table which contains the table factors for the nearest latitude with defect, then perform the multiplying and the summing up, setting in the register the number written on the strip and multiplying it by the number printed directly below it on the table. The calculation completed (attention must be paid to the signs), write down the result, denoting it as the value of the sought function for the argument φ_- (φ with defect).

4) Having cleared the product register pass the strip one line lower and compute in the same way the value of the sought function for the argument φ_+ (φ with excess).

5) From the obtained values of the function for the arguments φ_- and φ_+ , we may denote them by f_- and f_+ , compute the sought value f of the function for the argument φ by interpolation.

It is convenient to apply direct interpolation, i. e. to multiply the value of the function for the argument with defect by the complement to the unit of the „interpolating fraction“^{*)} to multiply the value of the function for the argument with excess by the interpolating fraction, and to sum up the results. This operation, expressed by the formula:

$$f = (1 - k) f_- + k f_+$$

we perform of course directly by computing machine.

In case of a pencil of geodesics it is convenient to interpolate the values of the table factors for the geographical latitude of the common vertex, and then perform a single calculation for each radius of the pencil.

For the computing of the values of the table factors it is also advisable to apply direct interpolation. Write down on a scrap of cardboard the complement to the unit of the interpolation fraction and below it the fraction itself, then pass the scrap $\begin{bmatrix} 1-k \\ k \end{bmatrix}$ along the line and perform the successive multiplications $(1-k)f_-$ and $k f_+$.

Note

Concerning the terms of the power series (2) and (5), except the terms with (y) and $(\Delta\lambda)$, the linear interpolation gives the same results (within the limits of the stipulated accuracy 0.0001 and 0.001 m) as those obtained by interpolation of higher order. Interpolating the value of the term (y) or $(\Delta\lambda)$ by linear interpolation we risk a reduction of the accuracy of the results, amounting in an extreme case (for a geodesic of the length of 100 km.) to 0.0003 and 0.001 m. If the accuracy is insufficient we can introduce a simple „interpolating correction“, which consists in diminishing the term (y) by the quantity p , or enlarging the term $(\Delta\lambda)$ by the quantity q . The quantities p and q may be obtained from the small tables given on the right margin. They are tabulated for the argument k . We may also introduce a correction into the result, i. e. to correct

^{*)}The quantity k called here the „interpolating fraction“ is the ratio of the difference between the given argument and the table argument with defect to the difference between the table values of the argument with excess and with defect: $k = \frac{\varphi - \varphi_-}{\varphi_+ - \varphi_-}$; e. g. interpolating from our tables for $\varphi = 46^\circ 15' 20''$ we obtain $k = \frac{20''}{60''} = 0,33333 \dots$ etc.

the obtained increment of the longitude $\Delta\lambda$ (Problem 1) by the quantity $p \cdot y$, or to correct the obtained component y (Problem 2) by the quantity $q \cdot \Delta\lambda$. The above corrections, however, are of very little significance; for the length of 100 km of the geodesic it would be logically quite sound to ignore the corrections altogether. In the numerical examples given below we are dealing with geodesics of the length of more than 100 km, and the corrections mentioned above have been introduced.

Problem 1

Given: $\left\{ \begin{array}{l} \varphi_1 = 50^\circ 45' 10'' 2709 = 50^\circ 45' 17.1182 \text{ k for interpolation} = 0.171182, \quad 1 - k = 0.828818 \\ S = 103275.242 \text{ m} = 1,03275242 \text{ hk (hundred kilometres)} \\ A_1 = 127^\circ 0' 0'', \quad \cos A_1 = -0.601815024 \\ \sin A_1 = +0.798635508 \end{array} \right.$

Calculation of the components and their powers:

$$\begin{array}{rcl} x = S \cos A = -0.62152592 & y = S \sin A = +0.82479275 \\ x^2 = & +0.38629447 & y^2 = +0.68028308 \\ x^3 = & -0.24009203 & y^3 = +0.56109255 \\ x^4 = & +0.14922342 & y^4 = +0.46278507 \\ x^5 = & -0.09274622 & y^5 = +0.38170177 \end{array}$$

Calculation of the increment in latitude. (To make the method quite clear the strip of cardboard is shown below as a sample $\hookrightarrow$, placed on the corresponding fragment of the table. It is of course unnecessary to copy that fragment while making the actual calculations).

$\varphi - 50^\circ$	(x)	(y)	(xy^2)	(x^2)	(x^2y^2)	(y^4)	(x^3)	(xy^4)	(x^3y^2)
	-0.62152592	0.82479275	-0.42281357	0.38629447	0.26278959	0.68028308	-0.24009203	-0.28763292	-0.16333055
45'	3236.51327	-30.99508	-0.72132	-0.25011	-0.01643	0.00348	0.00053	0.00024	-0.00038
46'	3236.50400	-31.01337	-0.72202	-0.25006	-0.01645	0.00348	0.00053	0.00024	-0.00038

$$\begin{array}{l} \Delta \varphi_{50^\circ 45'} = 2032'' 45679 \quad \left| \begin{array}{l} 0.828818 \\ 0.171182 \end{array} \right\} \Delta \varphi = -2032'' 45788 = -33' 52'' 4579 \\ \Delta \varphi_{50^\circ 46'} = 2032'' 46317 \quad \left| \begin{array}{l} 0.828818 \\ 0.171182 \end{array} \right\} \Delta \varphi = -2032'' 45788 = -33' 52'' 4579 \\ \varphi_1 = 50^\circ 45' 10'' 2709 \\ \varphi_2 = 50^\circ 11' 17'' 8130 = 50^\circ 11' 296883 \\ K = 0.296883 \\ 1 - K = 0.703117 \end{array}$$

Calculation of the increment in longitude (cf. the note above).

$\varphi - 50^\circ$	(y)	(xy)	(x^2y)	(y^2)	(x^2y^2)	(xy^3)	(x^2y^3)	(x^4y)	(y^5)
	0.82479275	-0.51263007	0.31861288	0.68028308	-0.19802617	-0.34873356	0.21674695	0.12307839	0.38170177
45'	5101.63400	97.71352	2.28911	-0.62385	0.05180	-0.04392	-0.00200	0.00119	0.00017
46'	5103.44632	97.80620	2.29214	-0.62481	0.05189	-0.04391	-0.00201	0.00119	0.00017

$$\begin{array}{l} \Delta \lambda_{50^\circ 45'} = 4158'' 08395 \quad \left| \begin{array}{l} 0.828818 \\ 0.171182 \end{array} \right\} \Delta \lambda = 4158'' 33177 \text{ or if we take into consideration} \\ \Delta \lambda_{50^\circ 46'} = 4159'' 53167 \quad \left| \begin{array}{l} 0.828818 \\ 0.171182 \end{array} \right\} \text{corr. p.y. } -0.00009 \text{ the correction p.y.} \\ \Delta \lambda = 4158'' 3317 = 1^\circ 09' 18'' 3317 \\ \lambda_1 = 22^\circ 20' 15'' 00 \\ \lambda_2 = 23^\circ 29' 33'' 3317 \end{array}$$

Calculation of the azimuth of the geodesic 1-2 at point 2

$$\begin{array}{l} \left\{ \begin{array}{l} (y) = 5101.63400, 0.828818 \\ 5103.44632, 0.171182 \end{array} \right\} = 5101.944237 \quad \left\{ \begin{array}{l} (y) = 5041.02591, 0.703117 \\ 5042.78086, 0.296883 \end{array} \right\} = 5041.546925 \\ \text{corr. p.y. } -0.00011 \quad \text{corr. p.y. } -0.00018 \\ 5101.94413 \quad 5041.54674 \\ y_2 = y_1 \frac{(y_2)}{(y_1)} = \frac{0.82479275 \cdot 5041.54674}{5101.94413} = 0.81502876 \\ x_2 = -\sqrt{S^2 - y_2^2} = -0.63427571 \\ A_2 = \arctan \frac{0.81502876}{-0.63427571}, \quad -1.28497552, \quad A_2 = 127^\circ 53' 27'' 397 \end{array}$$

Problem 2

Given: $\begin{cases} \varphi_1 = 50^\circ 45' 10'' 2709 & k = 0.171182 & 1-k = 0.828818 \\ \varphi_2 = 50^\circ 11' 17'' 8130 & k = 0.296883 & 1-k = 0.703117 \end{cases}$

Calculation of the increments and their powers $\begin{cases} \Delta\varphi_{12} = 33' 52'' 4579 = -2032'' 4579 = -0.20324579 \\ \Delta\varphi^2 = +0.04130885 \\ \Delta\varphi^3 = -0.00839585 \\ \Delta\varphi^4 = +0.00170642 \end{cases}$

$\begin{cases} \lambda_1 = 22^\circ 20' 15'' 00 \\ \lambda_2 = 23^\circ 29' 33'' 3317 \end{cases}$

$\begin{cases} \Delta\lambda = 1^\circ 09' 18'' 3317 = 4158'' 3317 = +0.41583317 \\ \Delta\lambda^2 = +0.17291723 \\ \Delta\lambda^3 = +0.07190472 \\ \Delta\lambda^4 = +0.02990037 \end{cases}$

Calculation of the component x (To make the method clear the strip of cardboard is shown below as a sample , placed on the corresponding fragment of the table. It is of course unnecessary to copy that fragment while making the actual calculations).

$\varphi - 50^\circ$	$(\Delta\varphi)$	$(\Delta\lambda^2)$	$(\Delta\varphi^2)$	$(\Delta\varphi\Delta\lambda^2)$	$(\Delta\varphi^3)$	$(\Delta\varphi^2\Delta\lambda^2)$	$(\Delta\lambda^4)$
	-0.20324579	0.17291723	0.04130885	-0.03514470	-0.00839585	0.00714301	0.02990037
45'	308974.478	3679.568	73.774	-169.170	-0.449	-5.636	-0.153
46'	308975.364	3679.135	73.766	-169.308	-0.450	-5.635	-0.153

$\begin{aligned} x_{\varphi=50^\circ 45'} &= -62152.5492 & 0.828818 \\ x_{\varphi=50^\circ 46'} &= -62152.7997 & 0.171182 \end{aligned} \quad \left. \vphantom{\begin{aligned} x_{\varphi=50^\circ 45'} \\ x_{\varphi=50^\circ 46'} \end{aligned}} \right\} x = -62152.592 \text{ m.}$

Calculation of the component y (cf. the note above).

$\varphi - 50^\circ$	$(\Delta\lambda)$	$(\Delta\varphi\Delta\lambda)$	$(\Delta\lambda^3)$	$(\Delta\varphi^2\Delta\lambda)$	$(\Delta\varphi\Delta\lambda^3)$	$(\Delta\varphi^3\Delta\lambda)$
	0.41583317	-0.08451634	0.07190472	0.01717759	-0.01461433	-0.00349127
45'	196015.629	-11600.019	-46.048	-155.932	0.891	-0.005
46'	195946.020	-11602.808	-46.054	-155.878	0.894	-0.005

$\begin{aligned} y_{\varphi=50^\circ 45'} &= 82484.1889 & 0.828818 \\ y_{\varphi=50^\circ 46'} &= 82455.4794 & 0.171182 \end{aligned} \quad \left. \vphantom{\begin{aligned} y_{\varphi=50^\circ 45'} \\ y_{\varphi=50^\circ 46'} \end{aligned}} \right\} \begin{aligned} y &= 82479.2744 \\ &\text{corr } \Delta\lambda_2 \quad 0.0005 \\ y &= 82479.275 \text{ m} \end{aligned}$

Calculation of the azimuth at the initial point and of the length of the geodesic.

$A_1 = \text{arc. tg. } \frac{82479.275}{-62152.592} = -1.32704482, \quad A_1 = 127^\circ 00'$
 $S = \sqrt{x^2 + y^2} = 103275.242 \text{ m.}$

Calculation of the azimuth of the geodesic 1-2 at point 2.

$\begin{aligned} (\Delta\lambda) &= 196015.629 \cdot 0.828818 \\ &195946.020 \cdot 0.171182 \end{aligned} \quad \left. \vphantom{\begin{aligned} (\Delta\lambda) \\ (\Delta\lambda) \end{aligned}} \right\} \begin{aligned} &= 196003.7132 \\ &\text{corr. } \frac{1}{196003.714} \end{aligned} \quad \begin{aligned} (\Delta\lambda_2) &198372.319 \cdot 0.703117 \\ &198303.283 \cdot 0.296883 \end{aligned} \quad \left. \vphantom{\begin{aligned} (\Delta\lambda_2) \\ (\Delta\lambda_2) \end{aligned}} \right\} \begin{aligned} &= 198351.8234 \\ &\text{corr. } \frac{1.7}{198351.825} \end{aligned}$

$y_2 = \frac{y_1 (\Delta\lambda_1)}{(\Delta\lambda_2)} = \frac{82479.275 \cdot 196003.714}{198351.825} = 81502.876$
 $x_2 = \sqrt{S^2 - y_2^2} = -63427.571$

$A_2 = \text{arc. tg. } \frac{81502.876}{-63427.571} = \text{arc. tg. } (-1.28497552) \quad A_2 = 127^\circ 53' 27'' 397$

Przyrost szerokości geograficznej $\Delta\varphi$

$\Delta\varphi'' = (X + Y^2 + X^2Y + Y^3 + \dots)$ gdzie $X = \cos A$ $Y = \sin A$ S długość linii geodezyjnej wyrażona w sekundach kilometrów
 A azymut linii geodezyjnej w punkcie wyjściowym

$\varphi - 48^\circ$	(X)	(Y)	(X ² Y)	(Y ³)	(X ² Y ²)	(Y ⁴)	(X ³)	(X ² Y ³)	(X ³ Y ²)
0	3238.05609	-28.14308	-0.61739	-0.25400	-0.01310	0.00270	0.00028	0.00017	-0.00028
1	3238.04668	-28.15944	-0.61796	-0.25398	-0.01312	0.00270	0.00028	0.00017	-0.00028
2	3238.03726	-28.17581	-0.61852	-0.25397	-0.01314	0.00271	0.00028	0.00017	-0.00028
3	3238.02785	-28.19219	-0.61909	-0.25395	-0.01315	0.00271	0.00028	0.00017	-0.00028
4	3238.01844	-28.20858	-0.61966	-0.25393	-0.01317	0.00272	0.00028	0.00017	-0.00028
5	3238.00903	-28.22498	-0.62023	-0.25392	-0.01319	0.00272	0.00029	0.00017	-0.00028
6	3237.99962	-28.24139	-0.62080	-0.25390	-0.01321	0.00272	0.00029	0.00017	-0.00028
7	3237.99021	-28.25781	-0.62137	-0.25388	-0.01322	0.00273	0.00029	0.00017	-0.00028
8	3237.98080	-28.27425	-0.62194	-0.25387	-0.01324	0.00273	0.00029	0.00018	-0.00028
9	3237.97140	-28.29069	-0.62252	-0.25385	-0.01326	0.00274	0.00029	0.00018	-0.00029
10	3237.96199	-28.30715	-0.62309	-0.25383	-0.01328	0.00274	0.00029	0.00018	-0.00029
11	3237.95258	-28.32361	-0.62366	-0.25381	-0.01329	0.00275	0.00030	0.00018	-0.00029
12	3237.94318	-28.34009	-0.62424	-0.25380	-0.01331	0.00275	0.00030	0.00018	-0.00029
13	3237.93377	-28.35657	-0.62482	-0.25378	-0.01333	0.00275	0.00030	0.00018	-0.00029
14	3237.92437	-28.37307	-0.62539	-0.25376	-0.01335	0.00276	0.00030	0.00018	-0.00029
15	3237.91496	-28.38958	-0.62597	-0.25374	-0.01337	0.00276	0.00030	0.00018	-0.00029
16	3237.90556	-28.40610	-0.62655	-0.25373	-0.01338	0.00277	0.00030	0.00018	-0.00029
17	3237.89616	-28.42263	-0.62713	-0.25371	-0.01340	0.00277	0.00030	0.00018	-0.00029
18	3237.88675	-28.43917	-0.62770	-0.25369	-0.01342	0.00277	0.00031	0.00018	-0.00029
19	3237.87735	-28.45572	-0.62828	-0.25367	-0.01344	0.00278	0.00031	0.00018	-0.00029
20	3237.86795	-28.47228	-0.62887	-0.25365	-0.01346	0.00278	0.00031	0.00018	-0.00029
21	3237.85855	-28.48885	-0.62945	-0.25363	-0.01347	0.00279	0.00031	0.00018	-0.00029
22	3237.84915	-28.50544	-0.63003	-0.25362	-0.01349	0.00279	0.00031	0.00018	-0.00029
23	3237.83975	-28.52203	-0.63061	-0.25360	-0.01351	0.00280	0.00031	0.00018	-0.00029
24	3237.83035	-28.53863	-0.63120	-0.25358	-0.01353	0.00280	0.00032	0.00018	-0.00029
25	3237.82095	-28.55525	-0.63178	-0.25356	-0.01355	0.00280	0.00032	0.00018	-0.00029
26	3237.81156	-28.57188	-0.63236	-0.25354	-0.01357	0.00281	0.00032	0.00018	-0.00029
27	3237.80216	-28.58851	-0.63295	-0.25352	-0.01358	0.00281	0.00032	0.00018	-0.00029
28	3237.79276	-28.60516	-0.63354	-0.25350	-0.01360	0.00282	0.00032	0.00018	-0.00029
29	3237.78337	-28.62182	-0.63412	-0.25349	-0.01362	0.00282	0.00032	0.00018	-0.00030
30	3237.77398	-28.63849	-0.63471	-0.25347	-0.01364	0.00283	0.00032	0.00018	-0.00030
31	3237.76458	-28.65517	-0.63530	-0.25345	-0.01366	0.00283	0.00033	0.00018	-0.00030
32	3237.75519	-28.67186	-0.63589	-0.25343	-0.01368	0.00283	0.00033	0.00018	-0.00030
33	3237.74580	-28.68857	-0.63648	-0.25341	-0.01369	0.00284	0.00033	0.00018	-0.00030
34	3237.73640	-28.70528	-0.63707	-0.25339	-0.01371	0.00284	0.00033	0.00018	-0.00030
35	3237.72701	-28.72201	-0.63766	-0.25337	-0.01373	0.00285	0.00033	0.00018	-0.00030
36	3237.71762	-28.73874	-0.63826	-0.25335	-0.01375	0.00285	0.00033	0.00018	-0.00030
37	3237.70823	-28.75549	-0.63885	-0.25333	-0.01377	0.00286	0.00034	0.00019	-0.00030
38	3237.69884	-28.77225	-0.63944	-0.25331	-0.01379	0.00286	0.00034	0.00019	-0.00030
39	3237.68946	-28.78902	-0.64004	-0.25329	-0.01381	0.00286	0.00034	0.00019	-0.00030
40	3237.68007	-28.80580	-0.64063	-0.25327	-0.01382	0.00287	0.00034	0.00019	-0.00030
41	3237.67068	-28.82258	-0.64123	-0.25325	-0.01384	0.00287	0.00034	0.00019	-0.00030
42	3237.66130	-28.83939	-0.64183	-0.25323	-0.01386	0.00288	0.00034	0.00019	-0.00030
43	3237.65191	-28.85620	-0.64243	-0.25321	-0.01388	0.00288	0.00034	0.00019	-0.00030
44	3237.64253	-28.87302	-0.64302	-0.25319	-0.01390	0.00289	0.00035	0.00019	-0.00030
45	3237.63314	-28.88986	-0.64362	-0.25317	-0.01392	0.00289	0.00035	0.00019	-0.00030
46	3237.62376	-28.90671	-0.64422	-0.25315	-0.01394	0.00289	0.00035	0.00019	-0.00030
47	3237.61438	-28.92356	-0.64482	-0.25313	-0.01396	0.00290	0.00035	0.00019	-0.00030
48	3237.60500	-28.94043	-0.64542	-0.25311	-0.01398	0.00290	0.00035	0.00019	-0.00031
49	3237.59561	-28.95731	-0.64602	-0.25309	-0.01399	0.00291	0.00035	0.00019	-0.00031
50	3237.58623	-28.97420	-0.64663	-0.25307	-0.01401	0.00291	0.00036	0.00019	-0.00031
51	3237.57685	-28.99111	-0.64723	-0.25305	-0.01403	0.00292	0.00036	0.00019	-0.00031
52	3237.56748	-29.00802	-0.64783	-0.25303	-0.01405	0.00292	0.00036	0.00019	-0.00031
53	3237.55810	-29.02494	-0.64844	-0.25300	-0.01407	0.00293	0.00036	0.00019	-0.00031
54	3237.54872	-29.04188	-0.64904	-0.25298	-0.01409	0.00293	0.00036	0.00019	-0.00031
55	3237.53934	-29.05883	-0.64965	-0.25296	-0.01411	0.00293	0.00036	0.00019	-0.00031
56	3237.52997	-29.07579	-0.65026	-0.25294	-0.01413	0.00294	0.00036	0.00019	-0.00031
57	3237.52059	-29.09276	-0.65087	-0.25292	-0.01415	0.00294	0.00037	0.00019	-0.00031
58	3237.51122	-29.10974	-0.65148	-0.25290	-0.01417	0.00295	0.00037	0.00019	-0.00031
59	3237.50185	-29.12673	-0.65209	-0.25288	-0.01419	0.00295	0.00037	0.00019	-0.00031
60	3237.49247	-29.14373	-0.65270	-0.25285	-0.01421	0.00296	0.00037	0.00019	-0.00031

Przyrost długości geograficznej $\Delta \lambda$

$$\Delta K'' = \textcircled{1} Y + \textcircled{2} X Y + \textcircled{3} X^2 Y + \dots$$
 gdzie $x = S \cos A$ $y = S \sin A$ Sługość linii geodezyjnej wyrażona w setkach kilometrów
 Azymut linii geodezyjnej w punkcie A

Średniość linii geodezyjnej wyrażono w setkach kilometrów.

Azymut linii geodezyjnej w punkcie wyjściowym

Poprawko
interpolacyjno
dla wyrazu

x	y	(xy)	(x^2y)	(y^3)	(x^2y)	(xy^3)	(x^3y^3)	(x^4y)	(y^5)	interpolacyjna wartość	
x	y									x'	y'
0	4826.68414	83.86603	1.85297	-0.48594	0.03904	-0.03219	-0.00138	0.00084	0.00011		
1	4826.23886	83.94207	1.85527	-0.48666	0.03910	-0.03225	-0.00138	0.00084	0.00011		
2	4827.79499	84.01819	1.85757	-0.48739	0.03917	-0.03231	-0.00138	0.00084	0.00011		
3	4829.35253	84.09440	1.85988	-0.48812	0.03923	-0.03237	-0.00139	0.00084	0.00011		
4	4830.91149	84.17070	1.86219	-0.48885	0.03930	-0.03242	-0.00139	0.00084	0.00011		
5	4832.47187	84.24709	1.86450	-0.48957	0.03936	-0.03248	-0.00139	0.00084	0.00011		
6	4834.03367	84.32356	1.86682	-0.49031	0.03943	-0.03254	-0.00139	0.00085	0.00011		
7	4835.59690	84.40013	1.86915	-0.49104	0.03949	-0.03260	-0.00140	0.00085	0.00011		
8	4837.16154	84.47678	1.87147	-0.49177	0.03956	-0.03266	-0.00140	0.00085	0.00011		
9	4838.72762	84.55352	1.87380	-0.49251	0.03963	-0.03272	-0.00140	0.00085	0.00011		
10	4840.29512	84.63035	1.87614	-0.49324	0.03969	-0.03278	-0.00141	0.00085	0.00011		
11	4841.86405	84.70727	1.87847	-0.49398	0.03976	-0.03284	-0.00141	0.00086	0.00012		
12	4843.43441	84.78428	1.88081	-0.49472	0.03983	-0.03290	-0.00141	0.00086	0.00012		
13	4845.00620	84.86138	1.88316	-0.49546	0.03989	-0.03296	-0.00142	0.00086	0.00012	0.01	1
14	4846.57943	84.93857	1.88551	-0.49620	0.03996	-0.03302	-0.00142	0.00086	0.00012	0.02	1
15	4848.15409	85.01585	1.88786	-0.49694	0.04003	-0.03308	-0.00142	0.00086	0.00012	0.03	2
16	4849.73019	85.09322	1.89022	-0.49768	0.04009	-0.03314	-0.00143	0.00086	0.00012	0.04	3
17	4851.30773	85.17068	1.89258	-0.49843	0.04016	-0.03321	-0.00143	0.00087	0.00012	0.05	3
18	4852.88671	85.24822	1.89494	-0.49917	0.04023	-0.03327	-0.00143	0.00087	0.00012	0.06	4
19	4854.46714	85.32586	1.89731	-0.49992	0.04030	-0.03333	-0.00144	0.00087	0.00012	0.07	5
20	4856.04900	85.40359	1.89968	-0.50067	0.04036	-0.03339	-0.00144	0.00087	0.00012	0.08	5
21	4857.63232	85.48141	1.90206	-0.50142	0.04043	-0.03345	-0.00144	0.00087	0.00012	0.09	6
22	4859.21708	85.55932	1.90444	-0.50217	0.04050	-0.03351	-0.00145	0.00088	0.00012	0.10	7
23	4860.80329	85.63733	1.90682	-0.50292	0.04057	-0.03357	-0.00145	0.00088	0.00012	0.12	8
24	4862.39095	85.71542	1.90921	-0.50367	0.04063	-0.03363	-0.00145	0.00088	0.00012	0.14	9
25	4863.98006	85.79360	1.91160	-0.50442	0.04070	-0.03370	-0.00146	0.00088	0.00012	0.15	10
26	4865.57063	85.87188	1.91400	-0.50518	0.04077	-0.03376	-0.00146	0.00088	0.00012	0.18	11
27	4867.16265	85.95024	1.91640	-0.50594	0.04084	-0.03382	-0.00146	0.00088	0.00012	0.20	12
28	4868.75613	86.02870	1.91880								

Przyrost szerokości geograficznej $\Delta \varphi$
$$\Delta \varphi^n = (x + y^2) y^2 + (x y^2) x y^2 + \dots$$
 gdzie $x = S \cos A$ $y = S \sin A$

5 długość linii geodezyjnej wyrażoną w setkach kilometrów
A odcinek linii geodezyjnej w punkcie wyjściowym

A odczytną linię dekodującą w punkcie wyjściowym

φ_{49}	(x)	(y)	(xy)	(x^2)	(x^2y)	(y^2)	(x^3)	(xy^2)	(x^3y)
0'	3237.49247	-29.14373	-0.65270	-0.25285	-0.01421	0.00296	0.00037	0.00019	-0.00031
1'	3237.48310	-29.16075	-0.65331	-0.25283	-0.01423	0.00296	0.00037	0.00019	-0.00031
2'	3237.47373	-29.17777	-0.65392	-0.25281	-0.01424	0.00297	0.00037	0.00019	-0.00031
3'	3237.46436	-29.19481	-0.65453	-0.25279	-0.01426	0.00297	0.00038	0.00019	-0.00031
4'	3237.45499	-29.21186	-0.65515	-0.25277	-0.01428	0.00297	0.00038	0.00019	-0.00031
5'	3237.44562	-29.22892	-0.65576	-0.25275	-0.01430	0.00298	0.00038	0.00020	-0.00031
6'	3237.43625	-29.24599	-0.65637	-0.25272	-0.01432	0.00298	0.00038	0.00020	-0.00031
7'	3237.42689	-29.26308	-0.65699	-0.25270	-0.01434	0.00299	0.00038	0.00020	-0.00032
8'	3237.41752	-29.28017	-0.65761	-0.25268	-0.01436	0.00299	0.00038	0.00020	-0.00032
9'	3237.40815	-29.29728	-0.65822	-0.25266	-0.01438	0.00300	0.00038	0.00020	-0.00032
10'	3237.39878	-29.31439	-0.65884	-0.25263	-0.01440	0.00300	0.00039	0.00020	-0.00032
11'	3237.38943	-29.33152	-0.65946	-0.25261	-0.01442	0.00301	0.00039	0.00020	-0.00032
12'	3237.38006	-29.34866	-0.66008	-0.25259	-0.01444	0.00301	0.00039	0.00020	-0.00032
13'	3237.37070	-29.36582	-0.66070	-0.25257	-0.01446	0.00302	0.00039	0.00020	-0.00032
14'	3237.36134	-29.38298	-0.66132	-0.25254	-0.01448	0.00302	0.00039	0.00020	-0.00032
15'	3237.35198	-29.40015	-0.66194	-0.25252	-0.01450	0.00302	0.00039	0.00020	-0.00032
16'	3237.34262	-29.41734	-0.66257	-0.25250	-0.01452	0.00303	0.00040	0.00020	-0.00032
17'	3237.33326	-29.43454	-0.66319	-0.25247	-0.01454	0.00303	0.00040	0.00020	-0.00032
18'	3237.32390	-29.45175	-0.66382	-0.25245	-0.01456	0.00304	0.00040	0.00020	-0.00032
19'	3237.31454	-29.46897	-0.66444	-0.25243	-0.01458	0.00304	0.00040	0.00020	-0.00032
20'	3237.30519	-29.48620	-0.66507	-0.25240	-0.01460	0.00305	0.00040	0.00020	-0.00032
21'	3237.29583	-29.50345	-0.66569	-0.25238	-0.01462	0.00305	0.00040	0.00020	-0.00032
22'	3237.28648	-29.52071	-0.66632	-0.25236	-0.01464	0.00306	0.00040	0.00020	-0.00032
23'	3237.27712	-29.53797	-0.66695	-0.25233	-0.01466	0.00306	0.00041	0.00020	-0.00032
24'	3237.26777	-29.55525	-0.66758	-0.25231	-0.01468	0.00307	0.00041	0.00020	-0.00033
25'	3237.25842	-29.57254	-0.66821	-0.25229	-0.01470	0.00307	0.00041	0.00020	-0.00033
26'	3237.24907	-29.58985	-0.66884	-0.25226	-0.01472	0.00308	0.00041	0.00020	-0.00033
27'	3237.23972	-29.60716	-0.66947	-0.25224	-0.01474	0.00308	0.00041	0.00020	-0.00033
28'	3237.23037	-29.62449	-0.67010	-0.25222	-0.01476	0.00309	0.00041	0.00020	-0.00033
29'	3237.22102	-29.64183	-0.67074	-0.25219	-0.01478	0.00309	0.00042	0.00020	-0.00033
30'	3237.21167	-29.65918	-0.67137	-0.25217	-0.01480	0.00309	0.00042	0.00020	-0.00033
31'	3237.20232	-29.67654	-0.67201	-0.25214	-0.01482	0.00310	0.00042	0.00021	-0.00033

Przyrost długości geograficznej $\Delta \lambda$

$\Delta A^* = (y^2) y + (x^2) xy + (x^2) y^2 + y^2 x^2 y \dots$ gdzie $x = S \cos A$ $y = S \sin A$ S długość linii geodezyjnej wyrażona w setkach kilometrów
 A azymut linii geodezyjnej w punkcie wyjściowym

Azymut linii geodezyjnej w punkcie wyjściowym

Poprawka inter

połączyno dla
MURAZU

WY 7020
①

№	X	Y	X ²	Y ²	XY	X ³	Y ³	X ² Y	XY ²	X ⁴	Y ⁴	X ³ Y	XY ³	X ⁴ Y	Y ⁴ X	policzono dla	
																K'	P.
0	4920.52752	88.58864	1.99785	-0.53765	0.04318	-0.03595	-0.00157	0.00095	0.00013								
1	4922.17008	88.67021	2.00038	-0.53245	0.04325	-0.03602	-0.00158	0.00095	0.00013								
2	4923.81416	88.75188	2.00293	-0.53325	0.04333	-0.03608	-0.00158	0.00095	0.00013								
3	4925.45975	88.83364	2.00547	-0.53406	0.04340	-0.03615	-0.00159	0.00095	0.00013								
4	4927.10687	88.91549	2.00802	-0.53486	0.04348	-0.03622	-0.00159	0.00096	0.00013								
5	4928.75551	88.99745	2.01058	-0.53567	0.04355	-0.03628	-0.00159	0.00096	0.00013								
6	4930.40567	89.07950	2.01314	-0.53648	0.04362	-0.03635	-0.00160	0.00096	0.00013								
7	4932.05736	89.16165	2.01570	-0.53729	0.04370	-0.03642	-0.00160	0.00096	0.00013								
8	4933.71058	89.24390	2.01827	-0.53810	0.04377	-0.03649	-0.00160	0.00096	0.00013								
9	4935.36533	89.32625	2.02084	-0.53891	0.04385	-0.03656	-0.00161	0.00097	0.00013								
10	4937.02161	89.40869	2.02342	-0.53973	0.04392	-0.03662	-0.00161	0.00097	0.00013								
11	4938.67942	89.49124	2.02600	-0.54054	0.04400	-0.03669	-0.00161	0.00097	0.00013								
12	4940.33877	89.57388	2.02858	-0.54136	0.04407	-0.03676	-0.00162	0.00097	0.00013								
13	4941.99966	89.65662	2.03117	-0.54218	0.04415	-0.03683	-0.00162	0.00097	0.00013								
14	4943.66208	89.73946	2.03377	-0.54300	0.04422	-0.03690	-0.00163	0.00098	0.00013								
15	4945.32605	89.82239	2.03636	-0.54382	0.04430	-0.03697	-0.00163	0.00098	0.00013								
16	4946.99156	89.90543	2.03897	-0.54464	0.04438	-0.03704	-0.00163	0.00098	0.00013								
17	4948.65862	89.98857	2.04157	-0.54546	0.04445	-0.03710	-0.00164	0.00098	0.00013								
18	4950.32722	90.07180	2.04418	-0.54629	0.04453	-0.03717	-0.00164	0.00098	0.00014								
19	4951.99737	90.15514	2.04680	-0.54712	0.04460	-0.03724	-0.00164	0.00099	0.00014								
20	4953.66907	90.23857	2.04942	-0.54794	0.04468	-0.03731	-0.00165	0.00099	0.00014								
21	4955.34232	90.32211	2.05204	-0.54877	0.04476	-0.03738	-0.00165	0.00099	0.00014								
22	4957.01713	90.40574	2.05467	-0.54960	0.04483	-0.03745	-0.00166	0.00099	0.00014								
23	4958.69349	90.48948	2.05731	-0.55044	0.04491	-0.03752	-0.00166	0.00099	0.00014								
24	4960.37141	90.57331	2.05994	-0.55127	0.04												

Przyrost szerokości geograficznej $\Delta \varphi$

$\Delta \varphi = \varphi(x) - \varphi(y) = \varphi(x) - \varphi(y) + \dots$ gdzie $x = \text{SassA}$ $y = \text{SunA}$ S długość linii geodezyjnej wyrażona w setkach kilometrów
 A azymut linii geodezyjnej w punkcie wyjściowym.

φ_0	(2)	(y)	(xy)	(x)	(x ²)	(y)	(y ²)	(xy)	(x ² y)
0'	32 36. 93 165	-30. 18 582	-0. 690 77	-0. 251 40	-0. 015 43	0. 003 24	0. 000 46	0. 000 22	-0. 000 35
1'	32 36. 92 233	-30. 20 294	-0. 69 143	-0. 251 38	-0. 015 45	0. 003 25	0. 000 46	0. 000 22	-0. 000 35
2'	32 36. 91 301	-30. 22 088	-0. 69 210	-0. 251 35	-0. 015 47	0. 003 25	0. 000 47	0. 000 22	-0. 000 35
3'	32 36. 90 369	-30. 23 843	-0. 69 278	-0. 251 32	-0. 015 49	0. 003 26	0. 000 47	0. 000 22	-0. 000 35
4'	32 36. 89 438	-30. 25 618	-0. 69 342	-0. 251 30	-0. 015 51	0. 003 26	0. 000 47	0. 000 22	-0. 000 35
5'	32 36. 88 506	-30. 27 396	-0. 69 408	-0. 251 27	-0. 015 54	0. 003 27	0. 000 47	0. 000 22	-0. 000 35
6'	32 36. 87 575	-30. 29 174	-0. 69 475	-0. 251 24	-0. 015 56	0. 003 27	0. 000 47	0. 000 22	-0. 000 35
7'	32 36. 86 643	-30. 30 954	-0. 69 541	-0. 251 21	-0. 015 58	0. 003 28	0. 000 47	0. 000 22	-0. 000 35
8'	32 36. 85 712	-30. 32 734	-0. 69 608	-0. 251 19	-0. 015 60	0. 003 28	0. 000 47	0. 000 22	-0. 000 35
9'	32 36. 84 781	-30. 34 516	-0. 69 674	-0. 251 16	-0. 015 62	0. 003 29	0. 000 48	0. 000 22	-0. 000 35
10'	32 36. 83 850	-30. 36 300	-0. 69 741	-0. 251 13	-0. 015 64	0. 003 29	0. 000 48	0. 000 22	-0. 000 35
11'	32 36. 82 919	-30. 38 084	-0. 69 808	-0. 251 10	-0. 015 67	0. 003 30	0. 000 48	0. 000 22	-0. 000 36
12'	32 36. 81 988	-30. 39 870	-0. 69 875	-0. 251 08	-0. 015 69	0. 003 30	0. 000 48	0. 000 22	-0. 000 35
13'	32 36. 81 057	-30. 41 657	-0. 69 942	-0. 251 05	-0. 015 71	0. 003 31	0. 000 48	0. 000 22	-0. 000 35
14'	32 36. 80 126	-30. 43 445	-0. 70 009	-0. 251 02	-0. 015 73	0. 003 31	0. 000 48	0. 000 22	-0. 000 36
15'	32 36. 79 196	-30. 45 235	-0. 70 076	-0. 250 99	-0. 015 75	0. 003 32	0. 000 49	0. 000 22	-0. 000 36
16'	32 36. 78 265	-30. 47 026	-0. 70 143	-0. 250 96	-0. 015 78	0. 003 32	0. 000 49	0. 000 22	-0. 000 36
17'	32 36. 77 335	-30. 48 818	-0. 70 211	-0. 250 94	-0. 015 80	0. 003 33	0. 000 49	0. 000 22	-0. 000 36
18'	32 36. 76 405	-30. 50 611	-0. 70 278	-0. 250 91	-0. 015 82	0. 003 33	0. 000 49	0. 000 23	-0. 000 36
19'	32 36. 75 475	-30. 52 406	-0. 70 346	-0. 250 88	-0. 015 84	0. 003 34	0. 000 49	0. 000 23	-0. 000 36
20'	32 36. 74 545	-30. 54 201	-0. 70 413	-0. 250 85	-0. 015 86	0. 003 34	0. 000 49	0. 000 23	-0. 000 36
21'	32 36. 73 615	-30. 55 998	-0. 70 481	-0. 250 82	-0. 015 89	0. 003 35	0. 000 49	0. 000 23	-0. 000 36
22'	32 36. 72 685	-30. 57 797	-0. 70 549	-0. 250 79	-0. 015 91	0. 003 35	0. 000 50	0. 000 23	-0. 000 36
23'	32 36. 71 755	-30. 59 596	-0. 70 617	-0. 250 77	-0. 015 93	0. 003 36	0. 000 50	0. 000 23	-0. 000 36
24'	32 36. 70 825	-30. 61 397	-0. 70 684	-0. 250 74	-0. 015 95	0. 003 36	0. 000 50	0. 000 23	-0. 000 36
25'	32 36. 69 896	-30. 63 199	-0. 70 753	-0. 250 71	-0. 015 98	0. 003 37	0. 000 50	0. 000 23	-0. 000 36
26'	32 36. 68 966	-30. 65 002	-0. 70 821	-0. 250 68	-0. 016 00	0. 003 37	0. 000 50	0. 000 23	-0. 000 36
27'	32 36. 68 037	-30. 66 807	-0. 70 889	-0. 250 65	-0. 016 02	0. 003 38	0. 000 50	0. 000 23	-0. 000 36
28'	32 36. 67 108	-30. 68 613	-0. 70 957	-0. 250 62	-0. 016 04	0. 003 38	0. 000 51	0. 000 23	-0. 000 36
29'	32 36. 66 179	-30. 70 420	-0. 71 026	-0. 250 59	-0. 016 07	0. 003 39	0. 000 51	0. 000 23	-0. 000 37
30'	32 36. 65 250	-30. 72 228	-0. 71 094	-0. 250 56	-0. 016 09	0. 003 40	0. 000 51	0. 000 23	-0. 000 37
31'	32 36. 64 321	-30. 74 038	-0. 71 163	-0. 250 53	-0. 016 11	0. 003 40	0. 000 51	0. 000 23	-0. 000 37
32'	32 36. 63 392	-30. 75 849	-0. 71 231	-0. 250 50	-0. 016 13	0. 003 41	0. 000 51	0. 000 23	-0. 000 37
33'	32 36. 62 463	-30. 77 661	-0. 71 300	-0. 250 47	-0. 016 16	0. 003 41	0. 000 51	0. 000 23	-0. 000 37
34'	32 36. 61 535	-30. 79 475	-0. 71 369	-0. 250 44	-0. 016 18	0. 003 42	0. 000 51	0. 000 23	-0. 000 37
35'	32 36. 60 606	-30. 81 289	-0. 71 438	-0. 250 42	-0. 016 20	0. 003 42	0. 000 52	0. 000 23	-0. 000 37
36'	32 36. 59 678	-30. 83 106	-0. 71 507	-0. 250 39	-0. 016 22	0. 003 43	0. 000 52	0. 000 23	-0. 000 37
37'	32 36. 58 749	-30. 84 923	-0. 71 576	-0. 250 36	-0. 016 25	0. 003 43	0. 000 52	0. 000 23	-0. 000 37
38'	32 36. 57 821	-30. 86 742	-0. 71 645	-0. 250 33	-0. 016 27	0. 003 44	0. 000 52	0. 000 23	-0. 000 37
39'	32 36. 56 893	-30. 88 561	-0. 71 715	-0. 250 29	-0. 016 29	0. 003 44	0. 000 52	0. 000 23	-0. 000 37
40'	32 36. 55 965	-30. 90 383	-0. 71 784	-0. 250 26	-0. 016 32	0. 003 45	0. 000 52	0. 000 24	-0. 000 37
41'	32 36. 55 037	-30. 92 205	-0. 71 853	-0. 250 23	-0. 016 34	0. 003 45	0. 000 52	0. 000 24	-0. 000 37
42'	32 36. 54 110	-30. 94 029	-0. 71 923	-0. 250 20	-0. 016 36	0. 003 46	0. 000 53	0. 000 24	-0. 000 37
43'	32 36. 53 182	-30. 95 854	-0. 71 993	-0. 250 17	-0. 016 38	0. 003 46	0. 000 53	0. 000 24	-0. 000 37
44'	32 36. 52 255	-30. 97 680	-0. 72 062	-0. 250 14	-0. 016 41	0. 003 47	0. 000 53	0. 000 24	-0. 000 38
45'	32 36. 51 327	-30. 99 508	-0. 72 132	-0. 250 11	-0. 016 43	0. 003 48	0. 000 53	0. 000 24	-0. 000 38
46'	32 36. 50 400	-31. 01 337	-0. 72 202	-0. 250 08	-0. 016 45	0. 003 48	0. 000 53	0. 000 24	-0. 000 38
47'	32 36. 49 473	-31. 03 167	-0. 72 272	-0. 250 05	-0. 016 48	0. 003 49	0. 000 53	0. 000 24	-0. 000 38
48'	32 36. 48 546	-31. 04 999	-0. 72 342	-0. 250 02	-0. 016 50	0. 003 49	0. 000 54	0. 000 24	-0. 000 38
49'	32 36. 47 619	-31. 06 832	-0. 72 413	-0. 249 99	-0. 016 52	0. 003 50	0. 000 54	0. 000 24	-0. 000 38
50'	32 36. 46 692	-31. 08 666	-0. 72 483	-0. 249 96	-0. 016 55	0. 003 50	0. 000 54	0. 000 24	-0. 000 38
51'	32 36. 45 765	-31. 10 501	-0. 72 553	-0. 249 93	-0. 016 57	0. 003 51	0. 000 54	0. 000 24	-0. 000 38
52'	32 36. 44 838	-31. 12 338	-0. 72 624	-0. 249 90	-0. 016 59	0. 003 51	0. 000 54	0. 000 24	-0. 000 38
53'	32 36. 43 912	-31. 14 176	-0. 72 694	-0. 249 87	-0. 016 62	0. 003 52	0. 000 54	0. 000 24	-0. 000 38
54'	32 36. 42 986	-31. 16 016	-0. 72 765	-0. 249 83	-0. 016 64	0. 003 52	0. 000 54	0. 000 24	-0. 000 38
55'	32 36. 42 059	-31. 17 856	-0. 72 836	-0. 249 80	-0. 016 66	0. 003 53	0. 000 55	0. 000 24	-0. 000 38
56'	32 36. 41 133	-31. 19 698	-0. 72 907	-0. 249 77	-0. 016 69	0. 003 54	0. 000 55	0. 000 24	-0. 000 38
57'	32 36. 40 207	-31. 21 542	-0. 72 978	-0. 249 74	-0. 016 71	0. 003 54	0. 000 55	0. 000 24	-0. 000 38
58'	32 36. 39 281	-31. 23 386	-0. 73 049	-0. 249 71	-0. 016 74	0. 003 55	0. 000 55	0. 000 24	-0. 000 39
59'	32 36. 38 355	-31. 25 232	-0. 73 120	-0. 249 68	-0. 016 76	0. 003 55	0. 000 55	0. 000 24	-0. 000 39
60'	32 36. 37 430	-31. 27 080	-0. 73 191	-0. 249 64	-0. 016 78	0. 003 56	0. 000 55	0. 000 24	-0. 000 39

Przyrost długości geograficznej $\Delta\lambda$

$\Delta\lambda'' = \varphi \cdot y \cdot (1 - \frac{1}{2} \sin^2 \varphi) \cdot \sin 2\lambda$ gdzie $x = S \cos \lambda$ $y = S \sin \lambda$

S - długość linii geodezyjnej wyrażona w setkach kilometrów
 λ - azymut linii geodezyjnej w punkcie wyjściowym

Poprawka
interpolacyjna
do wyrazu
 y

φ	y	(y^2)	(x^2y)	(y^3)	(x^3y)	(xy^3)	(x^2y^3)	(x^4y)	(y^5)	y	K'	P
0'	5021.82999	93.65972	2.15791	-0.58227	0.04787	-0.04022	-0.00181	0.00108	0.00015			
1'	5023.50684	93.74739	2.16072	-0.58316	0.04795	-0.04030	-0.00181	0.00108	0.00015			
2'	5025.30541	93.83517	2.16353	-0.58405	0.04804	-0.04038	-0.00181	0.00108	0.00015			
3'	5027.04558	93.92306	2.16634	-0.58494	0.04812	-0.04045	-0.00182	0.00108	0.00015			
4'	5028.78737	94.01105	2.16917	-0.58583	0.04821	-0.04053	-0.00182	0.00108	0.00015			
5'	5030.53081	94.09915	2.17199	-0.58673	0.04829	-0.04061	-0.00183	0.00109	0.00015			
6'	5032.27588	94.18736	2.17482	-0.58762	0.04837	-0.04069	-0.00183	0.00109	0.00015			
7'	5034.02260	94.27568	2.17766	-0.58852	0.04846	-0.04076	-0.00184	0.00109	0.00015			
8'	5035.77095	94.36410	2.18050	-0.58942	0.04854	-0.04084	-0.00184	0.00109	0.00015	0.01	1	
9'	5037.52036	94.45263	2.18335	-0.59032	0.04863	-0.04092	-0.00184	0.00110	0.00015	0.02	2	
10'	5039.27261	94.54128	2.18620	-0.59123	0.04871	-0.04099	-0.00185	0.00110	0.00015	0.03	3	
11'	5041.02591	94.63003	2.18905	-0.59213	0.04880	-0.04107	-0.00185	0.00110	0.00015	0.04	4	
12'	5042.78086	94.71889	2.19191	-0.59304	0.04888	-0.04115	-0.00186	0.00110	0.00015	0.05	5	
13'	5044.53766	94.80785	2.19478	-0.59394	0.04897	-0.04123	-0.00186	0.00111	0.00015	0.06	6	
14'	5046.29572	94.89693	2.19765	-0.59485	0.04905	-0.04131	-0.00187	0.00111	0.00015	0.07	7	
15'	5048.05564	94.98612	2.20052	-0.59576	0.04914	-0.04138	-0.00187	0.00111	0.00016	0.08	8	
16'	5049.81721	95.07541	2.20340	-0.59668	0.04923	-0.04146	-0.00187	0.00111	0.00016	0.09	9	
17'	5051.58045	95.16484	2.20629	-0.59759	0.04931	-0.04154	-0.00188	0.00112	0.00016	0.10	10	
18'	5053.34535	95.25434	2.20918	-0.59851	0.04940	-0.04162	-0.00188	0.00112	0.00016	0.11	11	
19'	5055.11197	95.34396	2.21207	-0.59942	0.04948	-0.04170	-0.00189	0.00112	0.00016	0.12	12	
20'	5056.88015	95.43370	2.21497	-0.60034	0.04957	-0.04178	-0.00189	0.00112	0.00016	0.13	13	
21'	5058.65005	95.52355	2.21788	-0.60126	0.04966	-0.04186	-0.00190	0.00113	0.00016	0.14	14	
22'	5060.42163	95.61350	2.22079	-0.60218	0.04974	-0.04194	-0.00190	0.00113	0.00016	0.15	15	
23'	5062.19487	95.70357	2.22370	-0.60311	0.04983	-0.04202	-0.00190	0.00113	0.00016	0.16	16	
24'	5063.96980	95.79375	2.22662	-0.60404	0.04992	-0.04210	-0.00191	0.00113	0.00016	0.17	17	
25'	5065.74640	95.88404	2.22953	-0.60496	0.05001	-0.04218	-0.00191	0.00114	0.00016	0.18	18	
26'	5067.52468	95.97445	2.23248	-0.60589	0.05009	-0.04226	-0.00192	0.00114	0.00016	0.19	19	
27'	5069.30464	96.06496	2.23541	-0.60682	0.05018	-0.04234	-0.00192	0.00114	0.00016	0.20	20	
28'	5071.08629	96.15559	2.23835	-0.60775	0.05027	-0.04242	-0.00193	0.00114	0.00016	0.21	21	
29'	5072.86963	96.24632	2.24130	-0.60868	0.05036	-0.04250	-0.00193	0.00115	0.00016	0.22	22	
30'	5074.65465	96.33717	2.24425	-0.60962	0.05045	-0.04258	-0.00194	0.00115	0.00016	0.23	23	
31'	5076.44136	96.42814	2.24720	-0.61056	0.05054	-0.04266	-0.00194	0.00115	0.00016	0.24	24	
32'	5078.22977	96.51921	2.25016	-0.61150	0.05063	-0.04275	-0.00194	0.00115	0.00016	0.25	25	
33'	5080.01987	96.61040	2.25313	-0.61244	0.05071	-0.04283	-0.00195	0.00116	0.00016	0.26	26	
34'	5081.81166	96.70170	2.25610	-0.61338	0.05080	-0.04291	-0.00195	0.00116	0.00016	0.27	27	
35'	5083.60516	96.79316	2.25907	-0.61432	0.05089	-0.04299	-0.00196	0.00116	0.00016	0.28	28	
36'	5085.40035	96.88464	2.26205	-0.61527	0.05098	-0.04307	-0.00196	0.00116	0.00016	0.29	29	
37'	5087.19725	96.97628	2.26504	-0.61621	0.05107	-0.04316	-0.00197	0.00117	0.00016	0.30	30	
38'	5088.99585	97.06804	2.26803	-0.61716	0.05116	-0.04324	-0.00197	0.00117	0.00016	0.31	31	
39'	5090.79617	97.15991	2.27102	-0.61811	0.05125	-0.04332	-0.00198	0.00117	0.00016	0.32	32	
40'	5092.59819	97.25189	2.27403	-0.61906	0.05134	-0.04340	-0.00198	0.00117	0.00017	0.33	33	
41'	5094.40192	97.34399	2.27703	-0.62002	0.05143	-0.04349	-0.00199	0.00118	0.00017	0.34	34	
42'	5096.20736	97.43620	2.28004	-0.62097	0.05153	-0.04357	-0.00199	0.00118	0.00017	0.35	35	
43'	5098.01452	97.52853	2.28306	-0.62193	0.05162	-0.04366	-0.00200	0.00118	0.00017	0.36	36	
44'	5099.82340	97.62097	2.28608	-0.62289	0.05171	-0.04374	-0.00200	0.00118	0.00017	0.37	37	
45'	5101.63400	97.71352	2.28911	-0.62385	0.05180	-0.04382	-0.00200	0.00119	0.00017	0.38	38	
46'	5103.44612	97.80620	2.29214	-0.62481	0.05189	-0.04391	-0.00201	0.00119	0.00017	0.39	39	
47'	5105.26037	97.89908	2.29518	-0.62577	0.05198	-0.04400	-0.00201	0.00119	0.00017	0.40	40	
48'	5107.07674	97.99189	2.29822	-0.62674	0.05207	-0.04408	-0.00202	0.00119	0.00017	0.41	41	
49'	5108.89364	98.08491	2.30127	-0.62771	0.05217	-0.04416	-0.00202	0.00120	0.00017	0.42	42	
50'	5110.71287	98.17804	2.30433	-0.62867	0.05226	-0.04425	-0.00203	0.00120	0.00017	0.43	43	
51'	5112.53383	98.27129	2.30738	-0.62965	0.05235	-0.04433	-0.00203	0.00120	0.00017	0.44	44	
52'	5114.35653	98.36466	2.31045	-0.63062	0.05244	-0.04442	-0.00204	0.00120	0.00017	0.45	45	
53'	5116.18097	98.45815	2.31352	-0.63159	0.05254	-0.04450	-0.00204	0.00121	0.00017	0.46	46	
54'	5118.00714	98.55175	2.31659	-0.63257	0.05263	-0.04459	-0.00205	0.00121	0.00017	0.47	47	
55'	5119.83506	98.64547	2.31967	-0.63354	0.05272	-0.04467	-0.00205	0.00121	0.00017	0.48	48	
56'	5121.66472	98.73930	2.32276	-0.63452	0.05282	-0.04476	-0.00206	0.00121	0.00017	0.49	49	
57'	5123.49612	98.83326	2.32585	-0.63550	0.05291	-0.04484	-0.00206	0.00122	0.00017	0.50	50	
58'	5125.32928	98.92733	2.32894	-0.63649	0.05301	-0.04493	-0.00207	0.00122	0.00017	0.51	51	
59'	5127.16418	99.02152	2.33204	-0.63747	0.05310	-0.04502	-0.00207	0.00122	0.00017	0.52	52	
60'	5129.00084	99.11582	2.33514	-0.63846	0.05319	-0.04510	-0.00208	0.00123	0.00017	0.53	53	

Przyrost szerokości geograficznej $\Delta \varphi$

$\Delta \varphi'' = \Delta X \cdot \cos \varphi^1 + \Delta Y \cdot \sin \varphi^1 + \dots$ gdzie $X = S \cos A$ $Y = S \sin A$ S długość linii geodezyjnej wyrażona w setkach kilometrów
 A azymut (linii geodezyjnej) w punkcie wyjściowym

φ^1	X	Y	XY	X^2	Y^2	XY	X^3	XY^2	Y^3
0'	3236.37430	-31.27080	-0.73191	-0.24964	-0.01678	0.00356	0.00055	0.00024	-0.00039
1'	3236.36504	-31.28928	-0.73262	-0.24961	-0.01681	0.00357	0.00056	0.00025	-0.00039
2'	3236.35579	-31.30778	-0.73334	-0.24958	-0.01683	0.00357	0.00056	0.00025	-0.00039
3'	3236.34653	-31.32630	-0.73405	-0.24955	-0.01685	0.00358	0.00056	0.00025	-0.00039
4'	3236.33728	-31.34482	-0.73477	-0.24952	-0.01688	0.00358	0.00056	0.00025	-0.00039
5'	3236.32803	-31.36336	-0.73549	-0.24949	-0.01690	0.00359	0.00056	0.00025	-0.00039
6'	3236.31878	-31.38192	-0.73620	-0.24945	-0.01693	0.00359	0.00056	0.00025	-0.00039
7'	3236.30953	-31.40048	-0.73692	-0.24942	-0.01695	0.00360	0.00057	0.00025	-0.00039
8'	3236.30028	-31.41906	-0.73764	-0.24939	-0.01697	0.00360	0.00057	0.00025	-0.00039
9'	3236.29104	-31.43766	-0.73836	-0.24936	-0.01700	0.00361	0.00057	0.00025	-0.00039
10'	3236.28179	-31.45626	-0.73909	-0.24932	-0.01702	0.00361	0.00057	0.00025	-0.00039
11'	3236.27255	-31.47488	-0.73981	-0.24929	-0.01705	0.00362	0.00057	0.00025	-0.00039
12'	3236.26330	-31.49352	-0.74053	-0.24926	-0.01707	0.00363	0.00057	0.00025	-0.00040
13'	3236.25406	-31.51216	-0.74126	-0.24922	-0.01710	0.00363	0.00057	0.00025	-0.00040
14'	3236.24482	-31.53082	-0.74198	-0.24919	-0.01712	0.00364	0.00057	0.00025	-0.00040
15'	3236.23558	-31.54950	-0.74271	-0.24916	-0.01714	0.00364	0.00058	0.00025	-0.00040
16'	3236.22634	-31.56818	-0.74344	-0.24913	-0.01717	0.00365	0.00058	0.00025	-0.00040
17'	3236.21711	-31.58688	-0.74416	-0.24909	-0.01719	0.00365	0.00058	0.00025	-0.00040
18'	3236.20787	-31.60560	-0.74489	-0.24906	-0.01722	0.00366	0.00058	0.00025	-0.00040
19'	3236.19864	-31.62432	-0.74562	-0.24903	-0.01724	0.00367	0.00058	0.00025	-0.00040
20'	3236.18940	-31.64307	-0.74636	-0.24899	-0.01727	0.00367	0.00058	0.00025	-0.00040
21'	3236.18017	-31.66182	-0.74709	-0.24896	-0.01729	0.00368	0.00059	0.00026	-0.00040
22'	3236.17094	-31.68059	-0.74782	-0.24892	-0.01732	0.00368	0.00059	0.00026	-0.00040
23'	3236.16171	-31.69937	-0.74856	-0.24889	-0.01734	0.00369	0.00059	0.00026	-0.00040
24'	3236.15248	-31.71817	-0.74929	-0.24886	-0.01737	0.00369	0.00059	0.00026	-0.00040
25'	3236.14325	-31.73698	-0.75003	-0.24882	-0.01739	0.00370	0.00059	0.00026	-0.00040
26'	3236.13403	-31.75580	-0.75077	-0.24879	-0.01742	0.00371	0.00059	0.00026	-0.00041
27'	3236.12480	-31.77464	-0.75150	-0.24876	-0.01744	0.00371	0.00059	0.00026	-0.00041
28'	3236.11558	-31.79349	-0.75224	-0.24872	-0.01747	0.00372	0.00060	0.00026	-0.00041
29'	3236.10636	-31.81235	-0.75298	-0.24869	-0.01749	0.00372	0.00060	0.00026	-0.00041
30'	3236.09714	-31.83123	-0.75372	-0.24865	-0.01752	0.00373	0.00060	0.00026	-0.00041
31'	3236.08792	-31.85012	-0.75447	-0.24862	-0.01754	0.00374	0.00060	0.00026	-0.00041
32'	3236.07870	-31.86903	-0.75521	-0.24858	-0.01757	0.00374	0.00060	0.00026	-0.00041
33'	3236.06948	-31.88794	-0.75595	-0.24855	-0.01759	0.00375	0.00060	0.00026	-0.00041
34'	3236.06026	-31.90688	-0.75670	-0.24851	-0.01762	0.00375	0.00060	0.00026	-0.00041
35'	3236.05105	-31.92583	-0.75745	-0.24848	-0.01764	0.00376	0.00061	0.00026	-0.00041
36'	3236.04184	-31.94479	-0.75819	-0.24845	-0.01767	0.00376	0.00061	0.00026	-0.00041
37'	3236.03262	-31.96376	-0.75894	-0.24841	-0.01769	0.00377	0.00061	0.00026	-0.00041
38'	3236.02341	-31.98275	-0.75969	-0.24838	-0.01772	0.00378	0.00061	0.00026	-0.00041
39'	3236.01420	-32.00175	-0.76044	-0.24834	-0.01774	0.00378	0.00061	0.00026	-0.00042
40'	3236.00499	-32.02077	-0.76119	-0.24831	-0.01777	0.00379	0.00061	0.00027	-0.00042
41'	3235.99579	-32.03980	-0.76194	-0.24827	-0.01779	0.00379	0.00062	0.00027	-0.00042
42'	3235.98658	-32.05884	-0.76270	-0.24823	-0.01782	0.00380	0.00062	0.00027	-0.00042
43'	3235.97738	-32.07789	-0.76345	-0.24820	-0.01785	0.00381	0.00062	0.00027	-0.00042
44'	3235.96817	-32.09698	-0.76421	-0.24816	-0.01787	0.00381	0.00062	0.00027	-0.00042
45'	3235.95897	-32.11606	-0.76496	-0.24813	-0.01790	0.00382	0.00062	0.00027	-0.00042
46'	3235.94977	-32.13516	-0.76572	-0.24809	-0.01792	0.00382	0.00062	0.00027	-0.00042
47'	3235.94057	-32.15428	-0.76648	-0.24806	-0.01795	0.00383	0.00062	0.00027	-0.00042
48'	3235.93137	-32.17341	-0.76724	-0.24802	-0.01797	0.00384	0.00063	0.00027	-0.00042
49'	3235.92218	-32.19255	-0.76800	-0.24798	-0.01800	0.00384	0.00063	0.00027	-0.00042
50'	3235.91298	-32.21171	-0.76876	-0.24795	-0.01803	0.00385	0.00063	0.00027	-0.00042
51'	3235.90379	-32.23088	-0.76952	-0.24791	-0.01805	0.00386	0.00063	0.00027	-0.00042
52'	3235.89459	-32.25006	-0.77028	-0.24788	-0.01808	0.00386	0.00063	0.00027	-0.00043
53'	3235.88540	-32.26926	-0.77105	-0.24784	-0.01810	0.00387	0.00063	0.00027	-0.00043
54'	3235.87621	-32.28847	-0.77181	-0.24780	-0.01813	0.00387	0.00064	0.00027	-0.00043
55'	3235.86702	-32.30770	-0.77258	-0.24777	-0.01816	0.00388	0.00064	0.00027	-0.00043
56'	3235.85784	-32.32694	-0.77335	-0.24773	-0.01818	0.00389	0.00064	0.00027	-0.00043
57'	3235.84865	-32.34620	-0.77412	-0.24770	-0.01821	0.00389	0.00064	0.00027	-0.00043
58'	3235.83946	-32.36547	-0.77489	-0.24766	-0.01824	0.00390	0.00064	0.00028	-0.00043
59'	3235.83028	-32.38476	-0.77566	-0.24762	-0.01826	0.00390	0.00064	0.00028	-0.00043
60'	3235.82110	-32.40406	-0.77643	-0.24758	-0.01829	0.00391	0.00064	0.00028	-0.00043

Przyrost długości geograficznej $\Delta \lambda$

$$\Delta h = (y) y + (xy) xy + (x^2y) x^2y + \dots$$
 gdzie $x = S \cos A$ $y = S \sin A$ S długość linii geodezyjnej wyrażona w sekundach kilometrów

Sługość linii geodezyjnej wyrażona w setkach kilometrów

działu linii geodezyjnej w punkcie wyjściowym.

*Poprawka
interpolacyjna*

[illegible]

Przyrost szerokości geograficznej $\Delta \varphi$

$\Delta \varphi = \Delta x \cdot \cos \varphi + \Delta y \cdot \sin \varphi + \dots$ gdzie $x = S \cos A$ $y = S \sin A$

Sługości linii geodezyjnej wyrażona w sekundach kilometrów
A azymut linii geodezyjnej w punkcie wyjściowym

$\Delta 52'$	(x^2)	(y^2)	(xy)	(x^3)	(x^2y)	(y^3)	(x^3y)	(xy^2)	(x^2y^2)
0'	3235.82110	-32.40406	-0.77663	-0.24758	-0.01829	0.00391	0.00064	0.00028	-0.00043
1'	3235.81132	-32.42337	-0.77720	-0.24755	-0.01831	0.00392	0.00065	0.00028	-0.00043
2'	3235.80274	-32.44270	-0.77777	-0.24751	-0.01834	0.00392	0.00065	0.00028	-0.00043
3'	3235.79356	-32.46204	-0.77875	-0.24747	-0.01837	0.00393	0.00065	0.00028	-0.00043
4'	3235.78430	-32.48140	-0.77953	-0.24744	-0.01839	0.00394	0.00065	0.00028	-0.00044
5'	3235.77521	-32.50077	-0.78030	-0.24740	-0.01842	0.00394	0.00065	0.00028	-0.00044
6'	3235.76603	-32.52015	-0.78108	-0.24736	-0.01845	0.00395	0.00065	0.00028	-0.00044
7'	3235.75686	-32.53955	-0.78186	-0.24732	-0.01847	0.00395	0.00065	0.00028	-0.00044
8'	3235.74769	-32.55897	-0.78264	-0.24729	-0.01850	0.00396	0.00066	0.00028	-0.00044
9'	3235.73852	-32.57840	-0.78342	-0.24725	-0.01853	0.00397	0.00066	0.00028	-0.00044
10'	3235.72935	-32.59784	-0.78420	-0.24721	-0.01855	0.00397	0.00066	0.00028	-0.00044
11'	3235.72018	-32.61730	-0.78498	-0.24717	-0.01858	0.00398	0.00066	0.00028	-0.00044
12'	3235.71102	-32.63677	-0.78577	-0.24714	-0.01861	0.00399	0.00066	0.00028	-0.00044
13'	3235.70185	-32.65626	-0.78655	-0.24710	-0.01864	0.00399	0.00066	0.00028	-0.00044
14'	3235.69269	-32.67576	-0.78734	-0.24706	-0.01866	0.00400	0.00066	0.00028	-0.00044
15'	3235.68353	-32.69528	-0.78813	-0.24702	-0.01869	0.00401	0.00067	0.00028	-0.00044
16'	3235.67437	-32.71481	-0.78892	-0.24698	-0.01872	0.00401	0.00067	0.00029	-0.00045
17'	3235.66521	-32.73435	-0.78971	-0.24695	-0.01874	0.00402	0.00067	0.00029	-0.00045
18'	3235.65605	-32.75391	-0.79050	-0.24691	-0.01877	0.00402	0.00067	0.00029	-0.00045
19'	3235.64689	-32.77349	-0.79129	-0.24687	-0.01880	0.00403	0.00067	0.00029	-0.00045
20'	3235.63774	-32.79308	-0.79208	-0.24683	-0.01883	0.00404	0.00067	0.00029	-0.00045
21'	3235.62858	-32.81268	-0.79287	-0.24679	-0.01885	0.00404	0.00068	0.00029	-0.00045
22'	3235.61943	-32.83230	-0.79367	-0.24675	-0.01888	0.00405	0.00068	0.00029	-0.00045
23'	3235.61028	-32.85194	-0.79446	-0.24672	-0.01891	0.00406	0.00068	0.00029	-0.00045
24'	3235.60113	-32.87158	-0.79526	-0.24668	-0.01894	0.00406	0.00068	0.00029	-0.00045
25'	3235.59198	-32.89125	-0.79606	-0.24664	-0.01896	0.00407	0.00068	0.00029	-0.00045
26'	3235.58284	-32.91093	-0.79686	-0.24660	-0.01899	0.00408	0.00068	0.00029	-0.00045
27'	3235.57369	-32.93062	-0.79766	-0.24656	-0.01902	0.00408	0.00068	0.00029	-0.00045
28'	3235.56455	-32.95033	-0.79846	-0.24652	-0.01905	0.00409	0.00069	0.00029	-0.00046
29'	3235.55541	-32.97005	-0.79926	-0.24648	-0.01908	0.00410	0.00069	0.00029	-0.00046
30'	3235.54627	-32.98979	-0.80007	-0.24644	-0.01910	0.00410	0.00069	0.00029	-0.00046
31'	3235.53713	-33.00954	-0.80087	-0.24640	-0.01913	0.00411	0.00069	0.00029	-0.00046
32'	3235.52799	-33.02931	-0.80168	-0.24636	-0.01916	0.00412	0.00069	0.00030	-0.00046
33'	3235.51885	-33.04909	-0.80248	-0.24632	-0.01919	0.00412	0.00069	0.00030	-0.00046
34'	3235.50972	-33.06889	-0.80329	-0.24628	-0.01922	0.00413	0.00069	0.00030	-0.00046
35'	3235.50058	-33.08870	-0.80410	-0.24624	-0.01924	0.00414	0.00070	0.00030	-0.00046
36'	3235.49145	-33.10853	-0.80491	-0.24620	-0.01927	0.00414	0.00070	0.00030	-0.00046
37'	3235.48232	-33.12838	-0.80572	-0.24616	-0.01930	0.00415	0.00070	0.00030	-0.00046
38'	3235.47319	-33.14823	-0.80653	-0.24612	-0.01933	0.00416	0.00070	0.00030	-0.00046
39'	3235.46407	-33.16811	-0.80735	-0.24608	-0.01936	0.00416	0.00070	0.00030	-0.00047
40'	3235.45494	-33.18800	-0.80816	-0.24604	-0.01938	0.00417	0.00070	0.00030	-0.00047
41'	3235.44581	-33.20790	-0.80898	-0.24600	-0.01941	0.00418	0.00071	0.00030	-0.00047
42'	3235.43669	-33.22782	-0.80980	-0.24596	-0.01944	0.00418	0.00071	0.00030	-0.00047
43'	3235.42757	-33.24775	-0.81061	-0.24592	-0.01947	0.00419	0.00071	0.00030	-0.00047
44'	3235.41845	-33.26770	-0.81143	-0.24588	-0.01950	0.00420	0.00071	0.00030	-0.00047
45'	3235.40933	-33.28767	-0.81225	-0.24584	-0.01953	0.00420	0.00071	0.00030	-0.00047
46'	3235.40021	-33.30764	-0.81307	-0.24580	-0.01956	0.00421	0.00071	0.00030	-0.00047
47'	3235.39110	-33.32764	-0.81390	-0.24576	-0.01959	0.00422	0.00071	0.00030	-0.00047
48'	3235.38198	-33.34765	-0.81472	-0.24572	-0.01961	0.00422	0.00072	0.00030	-0.00047
49'	3235.37287	-33.36767	-0.81555	-0.24568	-0.01964	0.00423	0.00072	0.00031	-0.00047
50'	3235.36376	-33.38772	-0.81637	-0.24564	-0.01967	0.00424	0.00072	0.00031	-0.00048
51'	3235.35465	-33.40777	-0.81720	-0.24560	-0.01970	0.00424	0.00072	0.00031	-0.00048
52'	3235.34554	-33.42784	-0.81803	-0.24556	-0.01973	0.00425	0.00072	0.00031	-0.00048
53'	3235.33643	-33.44793	-0.81886	-0.24551	-0.01976	0.00426	0.00072	0.00031	-0.00048
54'	3235.32733	-33.46803	-0.81969	-0.24547	-0.01979	0.00426	0.00072	0.00031	-0.00048
55'	3235.31822	-33.48813	-0.82052	-0.24543	-0.01982	0.00427	0.00073	0.00031	-0.00048
56'	3235.30912	-33.50828	-0.82135	-0.24539	-0.01985	0.00428	0.00073	0.00031	-0.00048
57'	3235.30002	-33.52843	-0.82218	-0.24535	-0.01988	0.00429	0.00073	0.00031	-0.00048
58'	3235.29092	-33.54859	-0.82302	-0.24531	-0.01991	0.00429	0.00073	0.00031	-0.00048
59'	3235.28182	-33.56877	-0.82385	-0.24527	-0.01993	0.00430	0.00073	0.00031	-0.00048
60'	3235.27273	-33.58897	-0.82469	-0.24522	-0.01996	0.00431	0.00073	0.00031	-0.00048

Przyrost długości geograficznej $\Delta \lambda$

$\Delta A'' = \textcircled{1} y + \textcircled{2} xy + \textcircled{3} x^2 y + \dots$ gdzie $x = S \cos A$ $y = S \sin A$
S - drugie linii geodezyjnej wyrażona w sekundach kilometrowych
A - rozmiar linii geodezyjnej w punkcie wyjściowym. Pamiętaj!

Azymut linii geodezyjnej w punkcie wyjściowym

Poprawka
interpelacyjna
dla wczoraj

φ	(y)	(xy)	(x^2y)	(y^3)	(x^2y)	(xy^2)	(x^2y^2)	(x^3y)	(x^4y)	(y^5)	(y)	K'	ρ
0'	5242.49286	104.98641	2.53182	-0.70098	0.05926	-0.05069	-0.00239	0.00140	0.00020				
1'	5244.44074	105.10032	2.53338	-0.70208	0.05937	-0.05079	-0.00240	0.00140	0.00020				
2'	5246.39051	105.20237	2.53486	-0.70318	0.05947	-0.05089	-0.00241	0.00141	0.00020				
3'	5248.34218	105.30455	2.54231	-0.70428	0.05958	-0.05099	-0.00241	0.00141	0.00020				
4'	5250.29575	105.40686	2.54579	-0.70540	0.05969	-0.05109	-0.00242	0.00141	0.00020				
5'	5252.25122	105.50930	2.54926	-0.70650	0.05980	-0.05119	-0.00242	0.00142	0.00021				
6'	5254.20860	105.61188	2.55277	-0.70761	0.05991	-0.05129	-0.00243	0.00142	0.00021				
7'	5256.16789	105.71459	2.55626	-0.70873	0.06002	-0.05139	-0.00244	0.00142	0.00021	0.01			
8'	5258.12909	105.81743	2.55977	-0.70984	0.06013	-0.05149	-0.00244	0.00143	0.00021	0.02			
9'	5260.09220	105.92041	2.56328	-0.71096	0.06024	-0.05159	-0.00245	0.00143	0.00021	0.03			
10'	5262.05723	106.02351	2.56679	-0.71208	0.06035	-0.05170	-0.00245	0.00143	0.00021	0.04			
11'	5264.02418	106.12676	2.57032	-0.71320	0.06046	-0.05180	-0.00246	0.00144	0.00021	0.05			
12'	5265.99305	106.23013	2.57384	-0.71432	0.06057	-0.05190	-0.00246	0.00144	0.00021	0.06			
13'	5267.96385	106.33364	2.57738	-0.71545	0.06068	-0.05200	-0.00247	0.00144	0.00021	0.07			
14'	5269.93657	106.43729	2.58092	-0.71657	0.06079	-0.05210	-0.00248	0.00145	0.00021	0.08			
15'	5271.91122	106.54107	2.58447	-0.71770	0.06090	-0.05221	-0.00248	0.00145	0.00021	0.09			
16'	5273.88780	106.64488	2.58802	-0.71883	0.06101	-0.05231	-0.00249	0.00145	0.00021	0.10			
17'	5275.86631	106.74904	2.59158	-0.71997	0.06113	-0.05241	-0.00249	0.00146	0.00021	0.12			
18'	5277.84676	106.85322	2.59515	-0.72110	0.06124	-0.05252	-0.00250	0.00146	0.00021	0.14			
19'	5279.82915	106.95754	2.59872	-0.72224	0.06135	-0.05262	-0.00251	0.00147	0.00021	0.16			
20'	5281.81348	107.06200	2.60230	-0.72338	0.06146	-0.05273	-0.00251	0.00147	0.00021	0.18			
21'	5283.79976	107.16659	2.60588	-0.72452	0.06158	-0.05283	-0.00252	0.00147	0.00021	0.20			
22'	5285.78798	107.27132	2.60948	-0.72566	0.06169	-0.05294	-0.00252	0.00147	0.00021	0.22			
23'	5287.77815	107.37619	2.61308	-0.72681	0.06180	-0.05304	-0.00253	0.00148	0.00021	0.24			
24'	5289.77027	107.48119	2.61668	-0.72796	0.06192	-0.05314	-0.00254	0.00148	0.00022	0.26			
25'	5291.76435	107.58633	2.62029	-0.72911	0.06203	-0.05325	-0.00254	0.00148	0.00022	0.28			
26'	5293.76038	107.69161	2.62391	-0.73026	0.06215	-0.05336	-0.00255	0.00149	0.00022	0.30			

Przyrost szerokości geograficznej $\Delta\varphi$

$\Delta\varphi = \varphi(x) - \varphi(y) = \varphi(x_1, y_1) - \varphi(x_2, y_2) = \dots$ gdzie $x = \text{Scas}$ $y = \text{Sun}$ R

S długość linii geodezyjnej wyrażona w sekundach kilometrów
 A azymut linii geodezyjnej w punkcie wyjściowym

$\Delta 53'$	(x)	(y)	(xy)	(x^2)	(x^2y)	(y^2)	(x^3)	(x^3y)	(x^2y^2)
0'	3235.27273	-33.58897	-0.82469	-0.24522	-0.01996	0.00431	0.00073	0.00031	-0.00048
1'	3235.26363	-33.60910	-0.82553	-0.24518	-0.01999	0.00431	0.00073	0.00031	-0.00048
2'	3235.25454	-33.62960	-0.82637	-0.24514	-0.02002	0.00432	0.00074	0.00031	-0.00048
3'	3235.24544	-33.64965	-0.82721	-0.24510	-0.02005	0.00433	0.00074	0.00031	-0.00048
4'	3235.23635	-33.66990	-0.82805	-0.24506	-0.02008	0.00433	0.00074	0.00032	-0.00048
5'	3235.22726	-33.69018	-0.82890	-0.24501	-0.02011	0.00434	0.00074	0.00032	-0.00048
6'	3235.21818	-33.71047	-0.82974	-0.24497	-0.02014	0.00435	0.00074	0.00032	-0.00048
7'	3235.20909	-33.73077	-0.83059	-0.24493	-0.02017	0.00435	0.00074	0.00032	-0.00048
8'	3235.20001	-33.75108	-0.83143	-0.24489	-0.02020	0.00436	0.00075	0.00032	-0.00048
9'	3235.19093	-33.77143	-0.83228	-0.24484	-0.02023	0.00437	0.00075	0.00032	-0.00048
10'	3235.18184	-33.79178	-0.83313	-0.24480	-0.02026	0.00438	0.00075	0.00032	-0.00048
11'	3235.17276	-33.81215	-0.83398	-0.24476	-0.02029	0.00438	0.00075	0.00032	-0.00048
12'	3235.16368	-33.83253	-0.83483	-0.24472	-0.02032	0.00439	0.00075	0.00032	-0.00050
13'	3235.15461	-33.85293	-0.83568	-0.24467	-0.02035	0.00440	0.00075	0.00032	-0.00050
14'	3235.14554	-33.87334	-0.83654	-0.24463	-0.02038	0.00440	0.00075	0.00032	-0.00050
15'	3235.13646	-33.89377	-0.83739	-0.24459	-0.02041	0.00441	0.00076	0.00032	-0.00050
16'	3235.12739	-33.91422	-0.83825	-0.24454	-0.02044	0.00442	0.00076	0.00032	-0.00050
17'	3235.11832	-33.93468	-0.83910	-0.24450	-0.02047	0.00443	0.00076	0.00032	-0.00050
18'	3235.10925	-33.95510	-0.83996	-0.24446	-0.02050	0.00443	0.00076	0.00032	-0.00050
19'	3235.10019	-33.97566	-0.84082	-0.24441	-0.02053	0.00444	0.00076	0.00033	-0.00050
20'	3235.09112	-33.99617	-0.84168	-0.24437	-0.02057	0.00445	0.00076	0.00033	-0.00050
21'	3235.08206	-34.01669	-0.84255	-0.24433	-0.02060	0.00446	0.00076	0.00033	-0.00050
22'	3235.07299	-34.03723	-0.84341	-0.24428	-0.02063	0.00446	0.00077	0.00033	-0.00051
23'	3235.06393	-34.05779	-0.84427	-0.24424	-0.02066	0.00447	0.00077	0.00033	-0.00051
24'	3235.05487	-34.07837	-0.84514	-0.24420	-0.02069	0.00448	0.00077	0.00033	-0.00051
25'	3235.04582	-34.09896	-0.84601	-0.24415	-0.02072	0.00448	0.00077	0.00033	-0.00051
26'	3235.03676	-34.11956	-0.84687	-0.24411	-0.02075	0.00449	0.00077	0.00033	-0.00051
27'	3235.02771	-34.14019	-0.84774	-0.24406	-0.02078	0.00450	0.00077	0.00033	-0.00051
28'	3235.01865	-34.16083	-0.84861	-0.24402	-0.02081	0.00451	0.00077	0.00033	-0.00051
29'	3235.00960	-34.18148	-0.84949	-0.24398	-0.02084	0.00451	0.00078	0.00033	-0.00051
30'	3235.00055	-34.20215	-0.85038	-0.24393	-0.02087	0.00452	0.00078	0.00033	-0.00051
31'	3234.99151	-34.22284	-0.85123	-0.24389	-0.02091	0.00453	0.00078	0.00033	-0.00051
32'	3234.98246	-34.24355	-0.85211	-0.24384	-0.02094	0.00454	0.00078	0.00033	-0.00052
33'	3234.97342	-34.26427	-0.85298	-0.24380	-0.02097	0.00454	0.00078	0.00033	-0.00052
34'	3234.96437	-34.28500	-0.85386	-0.24375	-0.02100	0.00455	0.00078	0.00034	-0.00052
35'	3234.95533	-34.30576	-0.85474	-0.24371	-0.02103	0.00456	0.00079	0.00034	-0.00052
36'	3234.94629	-34.32653	-0.85562	-0.24366	-0.02106	0.00457	0.00079	0.00034	-0.00052
37'	3234.93726	-34.34731	-0.85650	-0.24362	-0.02109	0.00457	0.00079	0.00034	-0.00052
38'	3234.92822	-34.36811	-0.85739	-0.24357	-0.02113	0.00458	0.00079	0.00034	-0.00052
39'	3234.91919	-34.38893	-0.85827	-0.24353	-0.02116	0.00459	0.00079	0.00034	-0.00052
40'	3234.91015	-34.40977	-0.85915	-0.24348	-0.02119	0.00459	0.00079	0.00034	-0.00052
41'	3234.90112	-34.43062	-0.86004	-0.24344	-0.02122	0.00460	0.00079	0.00034	-0.00052
42'	3234.89209	-34.45149	-0.86093	-0.24339	-0.02125	0.00461	0.00080	0.00034	-0.00053
43'	3234.88306	-34.47237	-0.86182	-0.24335	-0.02128	0.00462	0.00080	0.00034	-0.00053
44'	3234.87404	-34.49327	-0.86271	-0.24330	-0.02132	0.00463	0.00080	0.00034	-0.00053
45'	3234.86501	-34.51419	-0.86360	-0.24326	-0.02135	0.00463	0.00080	0.00034	-0.00053
46'	3234.85599	-34.53512	-0.86449	-0.24321	-0.02138	0.00464	0.00080	0.00034	-0.00053
47'	3234.84697	-34.55607	-0.86539	-0.24317	-0.02141	0.00465	0.00080	0.00034	-0.00053
48'	3234.83795	-34.57704	-0.86628	-0.24312	-0.02145	0.00466	0.00080	0.00035	-0.00053
49'	3234.82893	-34.59802	-0.86718	-0.24308	-0.02148	0.00466	0.00081	0.00035	-0.00053
50'	3234.81991	-34.61902	-0.86808	-0.24303	-0.02151	0.00467	0.00081	0.00035	-0.00053
51'	3234.81090	-34.64004	-0.86897	-0.24298	-0.02154	0.00468	0.00081	0.00035	-0.00053
52'	3234.80189	-34.66108	-0.86987	-0.24294	-0.02157	0.00469	0.00081	0.00035	-0.00054
53'	3234.79288	-34.68213	-0.87078	-0.24289	-0.02161	0.00469	0.00081	0.00035	-0.00054
54'	3234.78387	-34.70313	-0.87168	-0.24285	-0.02164	0.00470	0.00081	0.00035	-0.00054
55'	3234.77486	-34.72428	-0.87258	-0.24280	-0.02167	0.00471	0.00081	0.00035	-0.00054
56'	3234.76585	-34.74538	-0.87349	-0.24275	-0.02171	0.00472	0.00082	0.00035	-0.00054
57'	3234.75685	-34.76650	-0.87439	-0.24271	-0.02174	0.00473	0.00082	0.00035	-0.00054
58'	3234.74784	-34.78763	-0.87530	-0.24266	-0.02177	0.00473	0.00082	0.00035	-0.00054
59'	3234.73884	-34.80878	-0.87621	-0.24261	-0.02180	0.00474	0.00082	0.00035	-0.00054
60'	3234.72984	-34.82995	-0.87712	-0.24257	-0.02184	0.00475	0.00082	0.00035	-0.00054

Przyrost długości geograficznej $\Delta\lambda$

$\Delta\lambda = \varphi \cdot y + x \cdot y \cdot x^2 y^2 \dots$ gdzie $x = \cos A$ $y = \sin A$ Długość linii geodezyjnej wyrażona w sekundach kilometrów
Azymut linii geodezyjnej w punkcie wyjściowym

φ	y	$x \cdot y$	$x^2 y^2$	y^3	$x^3 y$	$x^2 y^2$	$x^4 y^3$	$x^5 y^4$	y^5	y	K'	ρ
0'	5362.80822	111.35456	2.75091	-0.77073	0.06619	-0.05710	-0.00227	0.00161	0.00026			
1'	5364.87438	111.46481	2.75477	-0.77136	0.06631	-0.05721	-0.00228	0.00161	0.00024			
2'	5366.94259	111.57520	2.75863	-0.77199	0.06643	-0.05733	-0.00228	0.00161	0.00024			
3'	5369.01286	111.68574	2.76250	-0.77262	0.06656	-0.05744	-0.00229	0.00162	0.00024			
4'	5371.08518	111.79643	2.76638	-0.77326	0.06668	-0.05756	-0.00230	0.00162	0.00024			
5'	5373.15857	111.90725	2.77026	-0.77390	0.06681	-0.05767	-0.00230	0.00162	0.00024			
6'	5375.23601	112.01823	2.77415	-0.77454	0.06693	-0.05779	-0.00231	0.00163	0.00024			
7'	5377.31452	112.12936	2.77805	-0.77518	0.06706	-0.05791	-0.00232	0.00163	0.00024			
8'	5379.39410	112.24063	2.78196	-0.77583	0.06718	-0.05802	-0.00233	0.00164	0.00024			
9'	5381.47575	112.35206	2.78587	-0.77648	0.06731	-0.05814	-0.00233	0.00164	0.00024			
10'	5383.56248	112.46363	2.78979	-0.77713	0.06743	-0.05826	-0.00234	0.00164	0.00024			
11'	5385.64928	112.57535	2.79371	-0.77778	0.06756	-0.05837	-0.00235	0.00165	0.00024			
12'	5387.73816	112.68722	2.79765	-0.77844	0.06769	-0.05849	-0.00235	0.00165	0.00025			
13'	5389.82912	112.79924	2.80159	-0.77910	0.06781	-0.05861	-0.00236	0.00166	0.00025			
14'	5391.92217	112.91141	2.80554	-0.77975	0.06794	-0.05873	-0.00237	0.00166	0.00025			
15'	5394.01730	113.02373	2.80950	-0.78041	0.06807	-0.05885	-0.00237	0.00166	0.00025			
16'	5396.11453	113.13620	2.81346	-0.78108	0.06820	-0.05897	-0.00238	0.00167	0.00025			
17'	5398.21304	113.24882	2.81743	-0.78175	0.06833	-0.05908	-0.00239	0.00167	0.00025			
18'	5400.31325	113.36160	2.82141	-0.78242	0.06845	-0.05920	-0.00239	0.00167	0.00025			
19'	5402.41477	113.47452	2.82539	-0.78310	0.06858	-0.05932	-0.00239	0.00168	0.00025			
20'	5404.52438	113.58759	2.82938	-0.78378	0.06871	-0.05944	-0.00241	0.00168	0.00025			
21'	5406.63210	113.70082	2.83339	-0.78446	0.06884	-0.05956	-0.00242	0.00169	0.00025			
22'	5408.74193	113.81420	2.83739	-0.78514	0.06897	-0.05968	-0.00242	0.00169	0.00025			
23'	5410.85386	113.92773	2.84141	-0.78582	0.06910	-0.05980	-0.00243	0.00169	0.00025			
24'	5412.96791	114.04141	2.84543	-0.80000	0.06923	-0.05993	-0.00244	0.00170	0.00025			
25'	5415.08407	114.15525	2.84946	-0.80217	0.06936	-0.06005	-0.00245	0.00170	0.00025			
26'	5417.20236	114.26924	2.85350	-0.80346	0.06949	-0.06017	-0.00245	0.00171	0.00026			
27'	5419.32278	114.38338	2.85754	-0.80475	0.06962	-0.06029	-0.00246	0.00171	0.00026			
28'	5421.44529	114.49768	2.86159	-0.80604	0.06976	-0.06041	-0.00247	0.00171	0.00026			
29'	5423.56995	114.61213	2.86565	-0.80734	0.06989	-0.06054	-0.00248	0.00172	0.00026			
30'	5425.69673	114.72673	2.86972	-0.80863	0.07002	-0.06066	-0.00249	0.00172	0.00026			
31'	5427.82565	114.84149	2.87379	-0.80993	0.07015	-0.06078	-0.00249	0.00173	0.00026			
32'	5429.95677	114.95640	2.87788	-0.81124	0.07029	-0.06090	-0.00250	0.00173	0.00026			
33'	5432.08990	115.07157	2.88197	-0.81254	0.07042	-0.06103	-0.00251	0.00173	0.00026			
34'	5434.22524	115.18670	2.88606	-0.81385	0.07055	-0.06115	-0.00251	0.00174	0.00026			
35'	5436.36272	115.30208	2.89017	-0.81516	0.07068	-0.06128	-0.00252	0.00174	0.00026			
36'	5438.50234	115.41761	2.89428	-0.81648	0.07082	-0.06140	-0.00253	0.00175	0.00026			
37'	5440.64412	115.53330	2.89840	-0.81779	0.07095	-0.06153	-0.00254	0.00175	0.00026			
38'	5442.78805	115.64915	2.90253	-0.81911	0.07109	-0.06165	-0.00255	0.00175	0.00026			
39'	5444.93416	115.76516	2.90665	-0.82043	0.07122	-0.06178	-0.00256	0.00176	0.00026			
40'	5447.08238	115.88132	2.91081	-0.82175	0.07136	-0.06190	-0.00257	0.00176	0.00026			
41'	5449.23279	115.99764	2.91496	-0.82308	0.07149	-0.06203	-0.00258	0.00177	0.00026			
42'	5451.38537	116.11412	2.91912	-0.82441	0.07163	-0.06215	-0.00259	0.00177	0.00027			
43'	5453.54011	116.23075	2.92328	-0.82574	0.07177	-0.06228	-0.00260	0.00178	0.00027			
44'	5455.69702	116.34755	2.92746	-0.82707	0.07190	-0.06241	-0.00261	0.00178	0.00027			
45'	5457.85611	116.46450	2.93164	-0.82841	0.07204	-0.06254	-0.00262	0.00178	0.00027			
46'	5460.01737	116.58161	2.93583	-0.82975	0.07218	-0.06266	-0.00263	0.00179	0.00027			
47'	5462.18081	116.69888	2.94003	-0.83109	0.07231	-0.06279	-0.00264	0.00179	0.00027			
48'	5464.34644	116.81631	2.94423	-0.83243	0.07245	-0.06292	-0.00265	0.00180	0.00027			
49'	5466.51425	116.93390	2.94845	-0.83378	0.07259	-0.06305	-0.00266	0.00180	0.00027			
50'	5468.68424	117.05166	2.95267	-0.83512	0.07273	-0.06318	-0.00267	0.00180	0.00027			
51'	5470.85644	117.16956	2.95690	-0.83647	0.07287	-0.06331	-0.00268	0.00181	0.00027			
52'	5473.03082	117.28763	2.96114	-0.83783	0.07301	-0.06344	-0.00269	0.00181	0.00027			
53'	5475.20740	117.40587	2.96538	-0.83918	0.07315	-0.06357	-0.00270	0.00182	0.00027			
54'	5477.38619	117.52426	2.96963	-0.84054	0.07329	-0.06370	-0.00271	0.00182	0.00027			
55'	5479.56717	117.64281	2.97389	-0.84190	0.07342	-0.06383	-0.00272	0.00183	0.00027			
56'	5481.75037	117.76153	2.97816	-0.84327	0.07357	-0.06396	-0.00273	0.00183	0.00028			
57'	5483.93577	117.88041	2.98244	-0.84464	0.07371	-0.06409	-0.00274	0.00184	0.00028			
58'	5486.12339	117.99945	2.98673	-0.84601	0.07385	-0.06422	-0.00275	0.00184	0.00028			
59'	5488.31322	118.11865	2.99102	-0.84738	0.07399	-0.06435	-0.00276	0.00184	0.00028			
60'	5490.50529	118.23802	2.99532	-0.84875	0.07413	-0.06448	-0.00277	0.00185	0.00028			

Przyrost szerokości geograficznej $\Delta \varphi$

$\Delta \varphi^2 = \Delta x^2 + \Delta y^2 + \Delta x \Delta y$, gdzie $x = S \cos A$, $y = S \sin A$ S długość linii geodezyjnej wyrażona w sekundach kilometrów
A azymut linii geodezyjnej w punkcie wyjściowym.

$\Delta 54$	Δx	Δy	Δx^2	Δy^2	$\Delta x \Delta y$	Δx^3	Δy^3	$\Delta x^2 \Delta y$	$\Delta x \Delta y^2$
0'	3234.72984	-34.82995	-0.87712	-0.24257	-0.02184	0.00475	0.00082	0.00035	-0.00054
1'	3234.72065	-34.85114	-0.87803	-0.24252	-0.02187	0.00476	0.00082	0.00036	-0.00055
2'	3234.71185	-34.87234	-0.87895	-0.24247	-0.02190	0.00476	0.00083	0.00036	-0.00055
3'	3234.70286	-34.89356	-0.87986	-0.24242	-0.02194	0.00477	0.00083	0.00036	-0.00055
4'	3234.69386	-34.91479	-0.88078	-0.24238	-0.02197	0.00478	0.00083	0.00036	-0.00055
5'	3234.68487	-34.93605	-0.88170	-0.24233	-0.02200	0.00479	0.00083	0.00036	-0.00055
6'	3234.67588	-34.95732	-0.88261	-0.24228	-0.02204	0.00480	0.00083	0.00036	-0.00055
7'	3234.66689	-34.97861	-0.88353	-0.24224	-0.02207	0.00480	0.00083	0.00036	-0.00055
8'	3234.65791	-34.99991	-0.88445	-0.24219	-0.02210	0.00481	0.00083	0.00036	-0.00055
9'	3234.64893	-35.02123	-0.88538	-0.24214	-0.02214	0.00482	0.00084	0.00036	-0.00055
10'	3234.63994	-35.04257	-0.88630	-0.24209	-0.02217	0.00483	0.00084	0.00036	-0.00056
11'	3234.63096	-35.06393	-0.88722	-0.24205	-0.02220	0.00484	0.00084	0.00036	-0.00056
12'	3234.62198	-35.08530	-0.88815	-0.24200	-0.02224	0.00484	0.00084	0.00036	-0.00056
13'	3234.61301	-35.10669	-0.88908	-0.24195	-0.02227	0.00485	0.00084	0.00036	-0.00056
14'	3234.60403	-35.12810	-0.89001	-0.24190	-0.02230	0.00486	0.00084	0.00036	-0.00056
15'	3234.59506	-35.14952	-0.89094	-0.24186	-0.02234	0.00487	0.00084	0.00037	-0.00056
16'	3234.58609	-35.17097	-0.89187	-0.24181	-0.02237	0.00488	0.00085	0.00037	-0.00056
17'	3234.57712	-35.19242	-0.89280	-0.24176	-0.02241	0.00488	0.00085	0.00037	-0.00056
18'	3234.56815	-35.21390	-0.89373	-0.24171	-0.02244	0.00489	0.00085	0.00037	-0.00056
19'	3234.55918	-35.23540	-0.89467	-0.24166	-0.02247	0.00490	0.00085	0.00037	-0.00057
20'	3234.55022	-35.25691	-0.89561	-0.24161	-0.02251	0.00491	0.00085	0.00037	-0.00057
21'	3234.54125	-35.27844	-0.89654	-0.24157	-0.02254	0.00492	0.00085	0.00037	-0.00057
22'	3234.53229	-35.29998	-0.89748	-0.24152	-0.02258	0.00492	0.00085	0.00037	-0.00057
23'	3234.52333	-35.32155	-0.89843	-0.24147	-0.02261	0.00493	0.00086	0.00037	-0.00057
24'	3234.51438	-35.34313	-0.89937	-0.24142	-0.02265	0.00494	0.00086	0.00037	-0.00057
25'	3234.50542	-35.36473	-0.90031	-0.24137	-0.02268	0.00495	0.00086	0.00037	-0.00057
26'	3234.49647	-35.38634	-0.90126	-0.24132	-0.02272	0.00496	0.00086	0.00037	-0.00057
27'	3234.48751	-35.40798	-0.90220	-0.24127	-0.02275	0.00497	0.00086	0.00038	-0.00057
28'	3234.47856	-35.42963	-0.90315	-0.24122	-0.02279	0.00497	0.00086	0.00038	-0.00058
29'	3234.46961	-35.45130	-0.90410	-0.24118	-0.02282	0.00498	0.00086	0.00038	-0.00058
30'	3234.46067	-35.47298	-0.90505	-0.24113	-0.02286	0.00499	0.00087	0.00038	-0.00058
31'	3234.45172	-35.49469	-0.90600	-0.24108	-0.02289	0.00500	0.00087	0.00038	-0.00058
32'	3234.44278	-35.51641	-0.90695	-0.24103	-0.02293	0.00501	0.00087	0.00038	-0.00058
33'	3234.43384	-35.53815	-0.90791	-0.24098	-0.02296	0.00502	0.00087	0.00038	-0.00058
34'	3234.42490	-35.55991	-0.90886	-0.24093	-0.02300	0.00502	0.00087	0.00038	-0.00058
35'	3234.41596	-35.58168	-0.90982	-0.24088	-0.02303	0.00503	0.00087	0.00038	-0.00058
36'	3234.40703	-35.60348	-0.91078	-0.24083	-0.02307	0.00504	0.00087	0.00038	-0.00058
37'	3234.39809	-35.62529	-0.91174	-0.24078	-0.02310	0.00505	0.00088	0.00038	-0.00059
38'	3234.38916	-35.64712	-0.91270	-0.24073	-0.02314	0.00506	0.00088	0.00038	-0.00059
39'	3234.38023	-35.66896	-0.91366	-0.24068	-0.02317	0.00507	0.00088	0.00038	-0.00059
40'	3234.37130	-35.69083	-0.91463	-0.24063	-0.02321	0.00507	0.00088	0.00039	-0.00059
41'	3234.36237	-35.71271	-0.91559	-0.24058	-0.02324	0.00508	0.00088	0.00039	-0.00059
42'	3234.35345	-35.73461	-0.91656	-0.24053	-0.02328	0.00509	0.00088	0.00039	-0.00059
43'	3234.34452	-35.75653	-0.91752	-0.24048	-0.02332	0.00510	0.00088	0.00039	-0.00059
44'	3234.33560	-35.77847	-0.91849	-0.24043	-0.02335	0.00511	0.00089	0.00039	-0.00059
45'	3234.32668	-35.80042	-0.91947	-0.24038	-0.02339	0.00512	0.00089	0.00039	-0.00060
46'	3234.31777	-35.82239	-0.92044	-0.24033	-0.02342	0.00512	0.00089	0.00039	-0.00060
47'	3234.30885	-35.84438	-0.92141	-0.24028	-0.02346	0.00513	0.00089	0.00039	-0.00060
48'	3234.29994	-35.86639	-0.92239	-0.24023	-0.02350	0.00514	0.00089	0.00039	-0.00060
49'	3234.29102	-35.88842	-0.92336	-0.24018	-0.02353	0.00515	0.00089	0.00039	-0.00060
50'	3234.28211	-35.91046	-0.92434	-0.24013	-0.02357	0.00516	0.00090	0.00039	-0.00060
51'	3234.27321	-35.93253	-0.92532	-0.24008	-0.02360	0.00517	0.00090	0.00039	-0.00060
52'	3234.26430	-35.95461	-0.92630	-0.24002	-0.02364	0.00518	0.00090	0.00040	-0.00061
53'	3234.25539	-35.97671	-0.92728	-0.23997	-0.02368	0.00519	0.00090	0.00040	-0.00061
54'	3234.24649	-35.99883	-0.92827	-0.23992	-0.02371	0.00520	0.00090	0.00040	-0.00061
55'	3234.23759	-36.02096	-0.92925	-0.23987	-0.02375	0.00520	0.00090	0.00040	-0.00061
56'	3234.22869	-36.04312	-0.93024	-0.23982	-0.02379	0.00521	0.00090	0.00040	-0.00061
57'	3234.21979	-36.06529	-0.93123	-0.23977	-0.02382	0.00522	0.00091	0.00040	-0.00061
58'	3234.21090	-36.08746	-0.93222	-0.23972	-0.02386	0.00523	0.00091	0.00040	-0.00061
59'	3234.20201	-36.10969	-0.93321	-0.23967	-0.02390	0.00524	0.00091	0.00040	-0.00061
60'	3234.19311	-36.13192	-0.93420	-0.23961	-0.02393	0.00525	0.00091	0.00040	-0.00061

Przyrost długości geograficznej ΔK

$\Delta K = (\gamma_1 y + \gamma_2 xy + \gamma_3 x^2 y + \dots)$ gdzie: $x = \sin A$, $y = \sin A$

Długości linii geodezyjnej wyrażone w sekundach kilometrów
A azymut linii geodezyjnej w punkcie wyjściowym

Porównanie
interpolacyjne
do wyrazów

N.54	(y)	(xy)	(x ² y)	(y ³)	(x ² y)	(xy ²)	(x ² y ²)	(x ³ y)	(y ³)	(y)	K'	P.
0	5490.50527	118.23802	2.98533	-0.84875	0.07473	-0.06448	-0.00321	0.00185	0.00028	K'	P.	
1	5492.69954	118.35755	2.99963	-0.85013	0.07487	-0.06461	-0.00322	0.00185	0.00028			
2	5494.89604	118.47724	3.00395	-0.85151	0.07491	-0.06475	-0.00323	0.00186	0.00028			
3	5497.09476	118.59710	3.00827	-0.85289	0.07495	-0.06488	-0.00324	0.00186	0.00028			
4	5499.29572	118.71742	3.01261	-0.85428	0.07490	-0.06501	-0.00325	0.00187	0.00028			
5	5501.49891	118.83731	3.01695	-0.85566	0.07484	-0.06515	-0.00326	0.00187	0.00028			
6	5503.70433	118.95766	3.02130	-0.85705	0.07499	-0.06528	-0.00326	0.00187	0.00028			
7	5505.91200	119.07817	3.02566	-0.85845	0.07513	-0.06541	-0.00327	0.00188	0.00028			
8	5508.12181	119.19885	3.03002	-0.85984	0.07528	-0.06555	-0.00328	0.00188	0.00028			
9	5510.33406	119.31970	3.03440	-0.86124	0.07542	-0.06568	-0.00329	0.00189	0.00028			
10	5512.54847	119.44071	3.03878	-0.86264	0.07557	-0.06582	-0.00330	0.00189	0.00029			
11	5514.76513	119.56190	3.04317	-0.86405	0.07571	-0.06595	-0.00331	0.00190	0.00029			
12	5516.98404	119.68324	3.04757	-0.86545	0.07585	-0.06609	-0.00331	0.00190	0.00029			
13	5519.20521	119.80476	3.05198	-0.86686	0.07600	-0.06623	-0.00332	0.00191	0.00029			
14	5521.42864	119.92644	3.05640	-0.86828	0.07615	-0.06636	-0.00333	0.00191	0.00029			
15	5523.65434	120.04829	3.06082	-0.86969	0.07630	-0.06650	-0.00334	0.00192	0.00029			
16	5525.88231	120.17030	3.06525	-0.87111	0.07644	-0.06664	-0.00335	0.00192	0.00029			
17	5528.11254	120.29249	3.06969	-0.87253	0.07659	-0.06677	-0.00336	0.00192	0.00029			
18	5530.34505	120.41484	3.07414	-0.87395	0.07674	-0.06691	-0.00336	0.00193	0.00029			
19	5532.57984	120.53736	3.07860	-0.87538	0.07689	-0.06705	-0.00337	0.00193	0.00029			
20	5534.81691	120.66006	3.08307	-0.87681	0.07703	-0.06719	-0.00338	0.00194	0.00029			
21	5537.05628	120.78292	3.08754	-0.87824	0.07718	-0.06733	-0.00339	0.00194	0.00029			
22	5539.29790	120.90595	3.09203	-0.87967	0.07733	-0.06747	-0.00340	0.00195	0.00029			
23	5541.54183	121.02915	3.09652	-0.88111	0.07748	-0.06761	-0.00341	0.00195	0.00030			
24	5543.78806	121.15253	3.10102	-0.88255	0.07763	-0.06775	-0.00342	0.00195	0.00030			
25	5546.03657	121.27607	3.10553	-0.88399	0.07778	-0.06789	-0.00342	0.00196	0.00030			
26	5548.28739	121.39978	3.11005	-0.88543	0.07793	-0.06803	-0.00343	0.00197	0.00030			
27	5550.54050	121.52367	3.11457	-0.88688	0.07808	-0.06817	-0.00344	0.00197	0.00030			
28	5552.79504	121.64773	3.11911	-0.88833	0.07823	-0.06831	-0.00345	0.00198	0.00030			
29	5555.05367	121.77196	3.12365	-0.88979	0.07839	-0.06845	-0.00346	0.00198	0.00030			
30	5557.31522	121.89636	3.12820	-0.89124	0.07854	-0.06859	-0.00347	0.00199	0.00030			
31	5559.57969	122.02093	3.13276	-0.89270	0.07869	-0.06874	-0.00348	0.00199	0.00030			
32	5561.84677	122.14568	3.13733	-0.89416	0.07884	-0.06888	-0.00349	0.00200	0.00030			
33	5564.11678	122.27060	3.14191	-0.89563	0.07900	-0.06902	-0.00349	0.00200	0.00030			
34	5566.38911	122.39570	3.14650	-0.89710	0.07915	-0.06916	-0.00350	0.00200	0.00030			
35	5568.66376	122.52087	3.15109	-0.89857	0.07930	-0.06931	-0.00351	0.00201	0.00030			
36	5570.94075	122.64641	3.15570	-0.90004	0.07946	-0.06945	-0.00352	0.00201	0.00031			
37	5573.21908	122.77203	3.16031	-0.90152	0.07961	-0.06960	-0.00353	0.00202	0.00031			
38	5575.49974	122.89782	3.16493	-0.90299	0.07977	-0.06974	-0.00354	0.00202	0.00031			
39	5577.78264	123.02379	3.16957	-0.90448	0.07992	-0.06989	-0.00355	0.00203	0.00031			
40	5580.06789	123.14993	3.17420	-0.90596	0.08008	-0.07003	-0.00356	0.00203	0.00031			
41	5582.35548	123.27625	3.17885	-0.90745	0.08024	-0.07018	-0.00357	0.00204	0.00031			
42	5584.64544	123.40275	3.18351	-0.90894	0.08039	-0.07032	-0.00358	0.00204	0.00031			
43	5586.93785	123.52943	3.18818	-0.91043	0.08055	-0.07047	-0.00358	0.00205	0.00031			
44	5589.23269	123.65628	3.19285	-0.91193	0.08071	-0.07062	-0.00359	0.00205	0.00031			
45	5591.52997	123.78331	3.19754	-0.91343	0.08086	-0.07076	-0.00360	0.00206	0.00031			
46	5593.82968	123.91051	3.20223	-0.91493	0.08102	-0.07091	-0.00361	0.00206	0.00031			
47	5596.13179	124.03790	3.20693	-0.91644	0.08118	-0.07106	-0.00362	0.00207	0.00031			
48	5598.43630	124.16546	3.21164	-0.91795	0.08134	-0.07121	-0.00363	0.00207	0.00032			
49	5600.74320	124.29320	3.21637	-0.91946	0.08150	-0.07136	-0.00364	0.00208	0.00032			
50	5603.05248	124.42112	3.22110	-0.92097	0.08166	-0.07151	-0.00365	0.00208	0.00032			
51	5605.36414	124.54922	3.22583	-0.92249	0.08182	-0.07166	-0.00366	0.00209	0.00032			
52	5607.67818	124.67750	3.23058	-0.92401	0.08198	-0.07181	-0.00367	0.00209	0.00032			
53	5609.99450	124.80597	3.23534	-0.92553	0.08214	-0.07196	-0.00368	0.00210	0.00032			
54	5612.31304	124.93461	3.24010	-0.92706	0.08230	-0.07211	-0.00369	0.00210	0.00032			
55	5614.63385	125.06343	3.24488	-0.92859	0.08246	-0.07226	-0.00370	0.00211	0.00032			
56	5616.95697	125.19243	3.24966	-0.93012	0.08262	-0.07241	-0.00371	0.00211	0.00032			
57	5619.28238	125.32162	3.25446	-0.93165	0.08278	-0.07256	-0.00372	0.00212	0.00032			
58	5621.60999	125.45098	3.25926	-0.93319	0.08295	-0.07271	-0.00372	0.00212	0.00032			
59	5623.93983	125.58053	3.26407	-0.93473	0.08311	-0.07286	-0.00373	0.00213	0.00033			
60	5626.26577	125.71026	3.26890	-0.93628	0.08327	-0.07302	-0.00374	0.00213	0.00033			

Przyrost szerokości geograficznej $\Delta \varphi$

$\Delta \varphi = \Delta x \cdot \cos \varphi + \Delta y \cdot \sin \varphi$ gdzie $x = \text{Scos } A$ $y = S \sin A$ S długość linii geodezyjnej wyrażona w sekundach kilometrów
 A azymut linii geodezyjnej w punkcie wyjściowym

$\Delta 55'$	(x)	(y)	(xy)	(x ²)	(x ² y)	(y ²)	(x ³)	(xy ²)	(x ² y ²)
1'	3234.18423	-36.15416	-0.93519	-0.23958	-0.02397	0.00528	0.00091	0.00040	-0.00061
2'	3234.17534	-36.17643	-0.93619	-0.23951	-0.02401	0.00528	0.00091	0.00040	-0.00082
3'	3234.16545	-36.19871	-0.93718	-0.23946	-0.02405	0.00527	0.00091	0.00041	-0.00062
4'	3234.15757	-36.22102	-0.93818	-0.23941	-0.02408	0.00528	0.00092	0.00041	-0.00062
5'	3234.14869	-36.24334	-0.93918	-0.23936	-0.02412	0.00528	0.00092	0.00041	-0.00062
6'	3234.13981	-36.26568	-0.94018	-0.23930	-0.02416	0.00530	0.00092	0.00041	-0.00062
7'	3234.13093	-36.28803	-0.94118	-0.23925	-0.02420	0.00531	0.00092	0.00041	-0.00062
8'	3234.12205	-36.31041	-0.94219	-0.23920	-0.02423	0.00532	0.00092	0.00041	-0.00062
9'	3234.11318	-36.33281	-0.94319	-0.23915	-0.02427	0.00533	0.00092	0.00041	-0.00062
10'	3234.10430	-36.35522	-0.94420	-0.23909	-0.02431	0.00534	0.00092	0.00041	-0.00063
11'	3234.09543	-36.37765	-0.94521	-0.23904	-0.02435	0.00534	0.00093	0.00041	-0.00063
12'	3234.08657	-36.40010	-0.94622	-0.23899	-0.02438	0.00535	0.00093	0.00041	-0.00063
13'	3234.07770	-36.42257	-0.94723	-0.23894	-0.02442	0.00536	0.00093	0.00041	-0.00063
14'	3234.06883	-36.44506	-0.94824	-0.23888	-0.02446	0.00537	0.00093	0.00042	-0.00063
15'	3234.05997	-36.46757	-0.94926	-0.23883	-0.02450	0.00538	0.00093	0.00042	-0.00063
16'	3234.05111	-36.49010	-0.95027	-0.23878	-0.02454	0.00539	0.00093	0.00042	-0.00063
17'	3234.04225	-36.51264	-0.95129	-0.23873	-0.02457	0.00540	0.00093	0.00042	-0.00064
18'	3234.03339	-36.53521	-0.95231	-0.23867	-0.02461	0.00541	0.00094	0.00042	-0.00064
19'	3234.02454	-36.55779	-0.95333	-0.23862	-0.02465	0.00542	0.00094	0.00042	-0.00064
20'	3234.01569	-36.58039	-0.95435	-0.23857	-0.02469	0.00543	0.00094	0.00042	-0.00064
21'	3234.00683	-36.60301	-0.95537	-0.23851	-0.02473	0.00544	0.00094	0.00042	-0.00064
22'	3233.99799	-36.62568	-0.95640	-0.23846	-0.02477	0.00544	0.00094	0.00042	-0.00064
23'	3233.98914	-36.64831	-0.95742	-0.23841	-0.02481	0.00545	0.00094	0.00042	-0.00064
24'	3233.98029	-36.67099	-0.95845	-0.23835	-0.02484	0.00546	0.00094	0.00042	-0.00064
25'	3233.97145	-36.69369	-0.95948	-0.23830	-0.02488	0.00547	0.00095	0.00043	-0.00065
26'	3233.96261	-36.71640	-0.96051	-0.23825	-0.02492	0.00548	0.00095	0.00043	-0.00065
27'	3233.95377	-36.73914	-0.96154	-0.23819	-0.02496	0.00549	0.00095	0.00043	-0.00065
28'	3233.94493	-36.76190	-0.96258	-0.23814	-0.02500	0.00550	0.00095	0.00043	-0.00065
29'	3233.93610	-36.78467	-0.96361	-0.23808	-0.02504	0.00551	0.00095	0.00043	-0.00065
30'	3233.92726	-36.80746	-0.96465	-0.23803	-0.02508	0.00552	0.00095	0.00043	-0.00065
31'	3233.91843	-36.83028	-0.96569	-0.23798	-0.02512	0.00553	0.00095	0.00043	-0.00065
32'	3233.90960	-36.85311	-0.96673	-0.23792	-0.02516	0.00554	0.00096	0.00043	-0.00065
33'	3233.90077	-36.87596	-0.96777	-0.23787	-0.02520	0.00555	0.00096	0.00043	-0.00066
34'	3233.89195	-36.89883	-0.96881	-0.23781	-0.02524	0.00556	0.00096	0.00043	-0.00066
35'	3233.88312	-36.92172	-0.96986	-0.23776	-0.02528	0.00557	0.00096	0.00043	-0.00066
36'	3233.87430	-36.94463	-0.97090	-0.23770	-0.02532	0.00558	0.00096	0.00044	-0.00066
37'	3233.86548	-36.96756	-0.97195	-0.23765	-0.02536	0.00559	0.00096	0.00044	-0.00066
38'	3233.85667	-36.99051	-0.97300	-0.23760	-0.02540	0.00559	0.00096	0.00044	-0.00066
39'	3233.84785	-37.01348	-0.97405	-0.23754	-0.02544	0.00560	0.00097	0.00044	-0.00066
40'	3233.83904	-37.03646	-0.97510	-0.23749	-0.02548	0.00561	0.00097	0.00044	-0.00067
41'	3233.83023	-37.05947	-0.97615	-0.23743	-0.02552	0.00562	0.00097	0.00044	-0.00067
42'	3233.82142	-37.08250	-0.97721	-0.23738	-0.02556	0.00563	0.00097	0.00044	-0.00067
43'	3233.81261	-37.10555	-0.97827	-0.23732	-0.02560	0.00564	0.00097	0.00044	-0.00067
44'	3233.80380	-37.12861	-0.97932	-0.23727	-0.02564	0.00565	0.00097	0.00044	-0.00067
45'	3233.79500	-37.15170	-0.98038	-0.23721	-0.02568	0.00566	0.00097	0.00044	-0.00067
46'	3233.78620	-37.17480	-0.98145	-0.23716	-0.02572	0.00567	0.00098	0.00045	-0.00067
47'	3233.77740	-37.19793	-0.98252	-0.23710	-0.02576	0.00568	0.00098	0.00045	-0.00068
48'	3233.76860	-37.22107	-0.98357	-0.23705	-0.02580	0.00569	0.00098	0.00045	-0.00068
49'	3233.75981	-37.24424	-0.98464	-0.23699	-0.02584	0.00570	0.00098	0.00045	-0.00068
50'	3233.75101	-37.26742	-0.98571	-0.23693	-0.02588	0.00571	0.00098	0.00045	-0.00068
51'	3233.74222	-37.29062	-0.98678	-0.23688	-0.02592	0.00572	0.00098	0.00045	-0.00068
52'	3233.73343	-37.31385	-0.98785	-0.23682	-0.02596	0.00573	0.00098	0.00045	-0.00068
53'	3233.72464	-37.33709	-0.98892	-0.23677	-0.02600	0.00574	0.00099	0.00045	-0.00068
54'	3233.71586	-37.36036	-0.98999	-0.23671	-0.02604	0.00575	0.00099	0.00045	-0.00068
55'	3233.70708	-37.38364	-0.99107	-0.23666	-0.02608	0.00576	0.00099	0.00045	-0.00069
56'	3233.69830	-37.40694	-0.99215	-0.23660	-0.02613	0.00577	0.00099	0.00046	-0.00069
57'	3233.68952	-37.43027	-0.99323	-0.23654	-0.02617	0.00578	0.00099	0.00046	-0.00069
58'	3233.68074	-37.45361	-0.99431	-0.23649	-0.02621	0.00579	0.00099	0.00046	-0.00069
59'	3233.67197	-37.47698	-0.99539	-0.23643	-0.02625	0.00580	0.00099	0.00046	-0.00069
60'	3233.66319	-37.50038	-0.99647	-0.23637	-0.02629	0.00581	0.00100	0.00046	-0.00069

Wzrost długości linii geodezyjnej przez COSINUS azymutu X

II $X_m = (\Delta\varphi \Delta\lambda^2 + \Delta\lambda^2 \Delta\varphi^2) \dots$ gdzie $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcznych
 $\Delta\lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcznych sek. łuku

$\varphi = 48^\circ$	$(\Delta\varphi)$	$(\Delta\lambda^2)$	$(\Delta\varphi^2)$	$(\Delta\varphi \Delta\lambda^2)$	$(\Delta\lambda^2 \Delta\varphi^2)$	$(\Delta\lambda^4)$
0'	308827.263	3733.786	74.814	-146.109	-0.217	-5.713
1'	308828.161	3733.561	74.809	-146.250	-0.219	-5.713
2'	308829.059	3733.334	74.805	-146.390	-0.220	-5.712
3'	308829.956	3733.106	74.801	-146.531	-0.221	-5.712
4'	308830.854	3732.877	74.797	-146.671	-0.223	-5.712
5'	308831.751	3732.647	74.792	-146.812	-0.224	-5.712
6'	308832.649	3732.415	74.788	-146.953	-0.226	-5.711
7'	308833.546	3732.182	74.783	-147.093	-0.227	-5.711
8'	308834.444	3731.948	74.779	-147.234	-0.228	-5.711
9'	308835.341	3731.713	74.775	-147.374	-0.230	-5.710
10'	308836.238	3731.476	74.770	-147.515	-0.231	-5.710
11'	308837.135	3731.238	74.766	-147.655	-0.233	-5.710
12'	308838.032	3730.999	74.761	-147.796	-0.234	-5.709
13'	308838.930	3730.758	74.757	-147.936	-0.235	-5.709
14'	308839.827	3730.517	74.752	-148.077	-0.237	-5.709
15'	308840.724	3730.274	74.747	-148.217	-0.238	-5.708
16'	308841.621	3730.029	74.743	-148.358	-0.240	-5.708
17'	308842.517	3729.784	74.738	-148.498	-0.241	-5.708
18'	308843.414	3729.537	74.734	-148.639	-0.242	-5.707
19'	308844.311	3729.289	74.729	-148.779	-0.244	-5.707
20'	308845.208	3729.040	74.724	-148.920	-0.245	-5.707
21'	308846.104	3728.789	74.719	-149.060	-0.247	-5.706
22'	308847.001	3728.537	74.715	-149.201	-0.248	-5.706
23'	308847.898	3728.284	74.710	-149.341	-0.250	-5.706
24'	308848.794	3728.030	74.705	-149.482	-0.251	-5.705
25'	308849.691	3727.774	74.700	-149.622	-0.252	-5.705
26'	308850.587	3727.517	74.695	-149.762	-0.254	-5.704
27'	308851.483	3727.259	74.691	-149.903	-0.255	-5.704
28'	308852.380	3727.000	74.686	-150.043	-0.257	-5.704
29'	308853.276	3726.739	74.681	-150.184	-0.258	-5.703
30'	308854.172	3726.477	74.676	-150.324	-0.259	-5.703
31'	308855.068	3726.214	74.671	-150.464	-0.261	-5.703
32'	308855.964	3725.949	74.666	-150.605	-0.262	-5.702
33'	308856.860	3725.683	74.661	-150.745	-0.264	-5.702
34'	308857.756	3725.416	74.656	-150.885	-0.265	-5.701
35'	308858.652	3725.148	74.651	-151.026	-0.266	-5.701
36'	308859.548	3724.878	74.646	-151.166	-0.268	-5.701
37'	308860.443	3724.608	74.640	-151.306	-0.269	-5.700
38'	308861.339	3724.336	74.635	-151.447	-0.271	-5.700
39'	308862.234	3724.062	74.630	-151.587	-0.272	-5.700
40'	308863.130	3723.788	74.625	-151.727	-0.273	-5.699
41'	308864.025	3723.512	74.620	-151.867	-0.275	-5.699
42'	308864.921	3723.235	74.614	-152.008	-0.276	-5.698
43'	308865.816	3722.956	74.609	-152.148	-0.278	-5.698
44'	308866.712	3722.677	74.604	-152.288	-0.279	-5.698
45'	308867.607	3722.396	74.598	-152.428	-0.280	-5.697
46'	308868.502	3722.114	74.593	-152.569	-0.282	-5.697
47'	308869.397	3721.830	74.588	-152.709	-0.283	-5.696
48'	308870.292	3721.546	74.582	-152.849	-0.285	-5.696
49'	308871.187	3721.260	74.577	-152.989	-0.286	-5.696
50'	308872.082	3720.973	74.571	-153.129	-0.288	-5.695
51'	308872.977	3720.684	74.566	-153.270	-0.289	-5.695
52'	308873.871	3720.394	74.560	-153.410	-0.290	-5.694
53'	308874.766	3720.103	74.555	-153.550	-0.292	-5.694
54'	308875.661	3719.811	74.549	-153.690	-0.293	-5.694
55'	308876.555	3719.518	74.544	-153.830	-0.295	-5.693
56'	308877.450	3719.223	74.538	-153.970	-0.296	-5.693
57'	308878.344	3718.927	74.532	-154.110	-0.297	-5.693
58'	308879.239	3718.630	74.527	-154.250	-0.299	-5.692
59'	308880.133	3718.331	74.521	-154.391	-0.300	-5.691
60'	308881.027	3718.032	74.515	-154.531	-0.302	-5.691

Wzrost długości linii geodezyjnej przez SINUS azymutu Y

$Y_m = (\Delta A) \Delta A + (\Delta \varphi) \Delta \varphi + (\Delta \lambda) \Delta \lambda + \dots$ gdzie $\Delta \varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku
 $\Delta \lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku

$\varphi = 48^\circ$	(ΔA)	$(\Delta \varphi)$	$(\Delta \lambda)$	$(\Delta \varphi \Delta \lambda)$	$(\Delta \varphi \Delta \lambda)$	$(\Delta \varphi \Delta \lambda)$	Poprawka interpolacyjna dla ygraw. Δh	
							K'	z
0'	207267.454	-11126.638	-44.841	-164.599	0.438	-0.016		
1'	207200.686	-11129.584	-44.850	-164.547	0.441	-0.016		
2'	207133.899	-11132.529	-44.859	-164.496	0.443	-0.016		
3'	207067.095	-11135.473	-44.868	-164.445	0.446	-0.016		
4'	207000.274	-11138.417	-44.877	-164.393	0.449	-0.015		
5'	206933.434	-11141.359	-44.886	-164.342	0.451	-0.015		
6'	206866.577	-11144.301	-44.895	-164.291	0.454	-0.015		
7'	206799.703	-11147.241	-44.904	-164.239	0.457	-0.015		
8'	206732.810	-11150.181	-44.913	-164.188	0.459	-0.015		
9'	206665.901	-11153.120	-44.922	-164.137	0.462	-0.015		
10'	206598.973	-11156.057	-44.931	-164.085	0.465	-0.015		
11'	206532.028	-11158.994	-44.939	-164.034	0.467	-0.015		
12'	206465.065	-11161.930	-44.948	-163.982	0.470	-0.015		
13'	206398.085	-11164.865	-44.957	-163.931	0.473	-0.015		
14'	206331.087	-11167.799	-44.966	-163.879	0.475	-0.015		
15'	206264.071	-11170.732	-44.975	-163.828	0.478	-0.015		
16'	206197.038	-11173.664	-44.983	-163.776	0.481	-0.015		
17'	206129.987	-11176.596	-44.992	-163.725	0.483	-0.015		
18'	206062.919	-11179.526	-45.001	-163.673	0.486	-0.015		
19'	205995.833	-11182.456	-45.009	-163.622	0.489	-0.014		
20'	205928.729	-11185.384	-45.018	-163.570	0.491	-0.014		
21'	205861.608	-11188.312	-45.027	-163.518	0.494	-0.014		
22'	205794.469	-11191.238	-45.035	-163.467	0.497	-0.014		
23'	205727.313	-11194.164	-45.044	-163.415	0.499	-0.014		
24'	205660.140	-11197.089	-45.052	-163.364	0.502	-0.014		
25'	205592.948	-11200.012	-45.061	-163.312	0.505	-0.014	0.1	1
26'	205525.739	-11202.935	-45.069	-163.260	0.508	-0.014	0.2	1
27'	205458.513	-11205.857	-45.078	-163.208	0.510	-0.014	0.3	2
28'	205391.269	-11208.778	-45.086	-163.157	0.513	-0.014	0.4	2
29'	205324.008	-11211.698	-45.095	-163.105	0.516	-0.014	0.5	2
30'	205256.729	-11214.618	-45.103	-163.053	0.518	-0.014	0.6	2
31'	205189.432	-11217.536	-45.112	-163.002	0.521	-0.014	0.7	2
32'	205122.118	-11220.453	-45.120	-162.950	0.524	-0.014	0.8	1
33'	205054.787	-11223.369	-45.128	-162.898	0.526	-0.014	0.9	1
34'	204987.438	-11226.285	-45.137	-162.846	0.529	-0.014	1.0	
35'	204920.071	-11229.199	-45.145	-162.794	0.532	-0.014		
36'	204852.687	-11232.113	-45.153	-162.743	0.534	-0.013		
37'	204785.286	-11235.026	-45.162	-162.691	0.537	-0.013		
38'	204717.867	-11237.937	-45.170	-162.639	0.540	-0.013		
39'	204650.431	-11240.848	-45.178	-162.587	0.543	-0.013		
40'	204582.977	-11243.758	-45.187	-162.535	0.545	-0.013		
41'	204515.506	-11246.667	-45.195	-162.483	0.548	-0.013		
42'	204448.017	-11249.575	-45.203	-162.431	0.551	-0.013		
43'	204380.511	-11252.482	-45.211	-162.379	0.553	-0.013		
44'	204312.987	-11255.388	-45.219	-162.327	0.556	-0.013		
45'	204245.446	-11258.293	-45.227	-162.276	0.559	-0.013		
46'	204177.888	-11261.197	-45.235	-162.224	0.562	-0.013		
47'	204110.312	-11264.100	-45.244	-162.172	0.564	-0.013		
48'	204042.718	-11267.003	-45.252	-162.120	0.567	-0.013		
49'	203975.108	-11269.904	-45.260	-162.068	0.570	-0.013		
50'	203907.480	-11272.804	-45.268	-162.015	0.572	-0.013		
51'	203839.834	-11275.704	-45.276	-161.963	0.575	-0.012		
52'	203772.171	-11278.602	-45.284	-161.911	0.578	-0.012		
53'	203704.491	-11281.500	-45.292	-161.859	0.581	-0.012		
54'	203636.793	-11284.397	-45.300	-161.807	0.583	-0.012		
55'	203569.078	-11287.292	-45.308	-161.755	0.586	-0.012		
56'	203501.346	-11290.187	-45.315	-161.703	0.589	-0.012		
57'	203433.596	-11293.081	-45.323	-161.651	0.591	-0.012		
58'	203365.829	-11295.974	-45.331	-161.599	0.594	-0.012		
59'	203298.044	-11298.866	-45.339	-161.546	0.597	-0.012		
60'	203230.242	-11301.757	-45.347	-161.494	0.600	-0.012		

II *Łączyn długości linii geodezyjnej przez COSINUSAZYMUTU X*

$X_m = (\Delta\varphi)\Delta\lambda^0 + (\Delta\lambda^0)\Delta\lambda^1 + (\Delta\varphi^2)\Delta\lambda^2 + \dots$ gdzie $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku
 $\Delta\lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.

$\varphi \cdot 49'$	$(\Delta\varphi)$	$(\Delta\lambda^0)$	$(\Delta\varphi^2)$	$(\Delta\varphi\Delta\lambda^0)$	$(\Delta\varphi^2)$	$(\Delta\varphi^2\Delta\lambda^0)$	$(\Delta\lambda^0)$
0'	308 881.027	3718.032	74.515	-154.530	-0.302	-5.681	-0.110
1'	308 881.921	3717.730	74.510	-154.671	-0.303	-5.691	-0.111
2'	308 882.815	3717.428	74.504	-154.811	-0.304	-5.690	-0.111
3'	308 883.709	3717.125	74.498	-154.951	-0.306	-5.690	-0.112
4'	308 884.603	3716.820	74.492	-155.091	-0.307	-5.689	-0.112
5'	308 885.497	3716.514	74.486	-155.231	-0.309	-5.689	-0.112
6'	308 886.391	3716.206	74.480	-155.371	-0.310	-5.688	-0.113
7'	308 887.285	3715.890	74.475	-155.511	-0.311	-5.688	-0.113
8'	308 888.178	3715.588	74.469	-155.651	-0.313	-5.687	-0.114
9'	308 889.072	3715.277	74.463	-155.791	-0.314	-5.687	-0.114
10'	308 889.965	3714.965	74.457	-155.931	-0.316	-5.687	-0.115
11'	308 890.859	3714.651	74.451	-156.071	-0.317	-5.686	-0.115
12'	308 891.752	3714.336	74.445	-156.211	-0.318	-5.686	-0.115
13'	308 892.645	3714.020	74.439	-156.351	-0.320	-5.685	-0.116
14'	308 893.539	3713.703	74.433	-156.490	-0.321	-5.685	-0.116
15'	308 894.432	3713.384	74.426	-156.630	-0.323	-5.684	-0.117
16'	308 895.325	3713.064	74.420	-156.770	-0.324	-5.684	-0.117
17'	308 896.218	3712.743	74.414	-156.910	-0.325	-5.683	-0.117
18'	308 897.111	3712.420	74.408	-157.050	-0.327	-5.683	-0.118
19'	308 898.004	3712.097	74.402	-157.190	-0.328	-5.683	-0.118
20'	308 898.896	3711.772	74.396	-157.330	-0.330	-5.682	-0.119
21'	308 899.789	3711.445	74.389	-157.470	-0.331	-5.682	-0.119
22'	308 900.682	3711.118	74.383	-157.609	-0.332	-5.681	-0.119
23'	308 901.574	3710.789	74.377	-157.749	-0.334	-5.681	-0.120
24'	308 902.467	3710.459	74.370	-157.889	-0.335	-5.680	-0.120
25'	308 903.359	3710.128	74.364	-158.029	-0.337	-5.680	-0.121
26'	308 904.251	3709.796	74.358	-158.169	-0.338	-5.679	-0.121
27'	308 905.144	3709.462	74.351	-158.308	-0.339	-5.679	-0.121
28'	308 906.036	3709.127	74.345	-158.448	-0.341	-5.678	-0.122
29'	308 906.928	3708.791	74.338	-158.588	-0.342	-5.678	-0.122
30'	308 907.820	3708.453	74.332	-158.728	-0.344	-5.677	-0.123
31'	308 908.712	3708.114	74.325	-158.867	-0.345	-5.677	-0.123
32'	308 909.604	3707.774	74.319	-159.007	-0.346	-5.676	-0.123
33'	308 910.496	3707.433	74.312	-159.147	-0.348	-5.676	-0.124
34'	308 911.387	3707.090	74.306	-159.287	-0.349	-5.675	-0.124
35'	308 912.279	3706.747	74.299	-159.426	-0.351	-5.675	-0.125
36'	308 913.171	3706.402	74.293	-159.566	-0.352	-5.674	-0.125
37'	308 914.062	3706.055	74.286	-159.705	-0.354	-5.674	-0.125
38'	308 914.953	3705.708	74.279	-159.845	-0.355	-5.673	-0.126
39'	308 915.845	3705.359	74.273	-159.985	-0.356	-5.673	-0.126
40'	308 916.736	3705.009	74.266	-160.124	-0.358	-5.672	-0.127
41'	308 917.627	3704.657	74.259	-160.264	-0.359	-5.672	-0.127
42'	308 918.518	3704.305	74.252	-160.404	-0.360	-5.671	-0.128
43'	308 919.409	3703.951	74.245	-160.543	-0.362	-5.671	-0.128
44'	308 920.300	3703.596	74.239	-160.683	-0.363	-5.670	-0.128
45'	308 921.191	3703.240	74.232	-160.822	-0.365	-5.670	-0.129
46'	308 922.082	3702.882	74.225	-160.962	-0.366	-5.669	-0.129
47'	308 922.972	3702.523	74.218	-161.101	-0.367	-5.669	-0.130
48'	308 923.863	3702.163	74.211	-161.241	-0.369	-5.668	-0.130
49'	308 924.753	3701.802	74.204	-161.380	-0.370	-5.668	-0.130
50'	308 925.644	3701.439	74.197	-161.520	-0.372	-5.667	-0.131
51'	308 926.534	3701.075	74.190	-161.659	-0.373	-5.667	-0.131
52'	308 927.424	3700.710	74.183	-161.799	-0.374	-5.666	-0.132
53'	308 928.314	3700.344	74.176	-161.938	-0.376	-5.666	-0.132
54'	308 929.204	3699.976	74.169	-162.078	-0.377	-5.665	-0.132
55'	308 930.094	3699.607	74.162	-162.217	-0.379	-5.665	-0.133
56'	308 930.984	3699.237	74.155	-162.356	-0.380	-5.664	-0.133
57'	308 931.874	3698.866	74.148	-162.496	-0.381	-5.663	-0.134
58'	308 932.764	3698.493	74.140	-162.635	-0.383	-5.663	-0.134
59'	308 933.654	3698.119	74.133	-162.775	-0.384	-5.662	-0.134
60'	308 934.543	3697.744	74.126	-162.914	-0.386	-5.662	-0.135

Tabela długości linii geodezyjnej przez sinus azymutu Y

Y przyrost szerokości geograf. wyrażony w dziesiątkach tysięcy sek. łuku.
 ΔY przyrost długości geograf. wyrażony w dziesiątkach tysięcy sek. łuku.

φ. 49°	ΔA	ΔφA	ΔA ²	Δφ ² A	Δφ ² A ²	Δφ ² A ³	Błądka interpolacyjna dla wyrazu ΔA	
0'	203 230.242	-11301.757	-45.347	-161.494	0.600	-0.012	K'	2
1'	203 162.423	-11304.647	-45.355	-161.442	0.602	-0.012		
2'	203 094.587	-11307.536	-45.362	-161.390	0.605	-0.012		
3'	203 026.733	-11310.424	-45.370	-161.338	0.608	-0.012		
4'	202 958.861	-11313.312	-45.378	-161.285	0.611	-0.012		
5'	202 890.973	-11316.198	-45.386	-161.233	0.613	-0.012		
6'	202 823.067	-11319.083	-45.393	-161.181	0.616	-0.012		
7'	202 755.144	-11321.968	-45.401	-161.129	0.619	-0.011		
8'	202 687.203	-11324.851	-45.409	-161.076	0.621	-0.011		
9'	202 619.246	-11327.734	-45.416	-161.024	0.624	-0.011		
10'	202 551.271	-11330.615	-45.424	-160.972	0.627	-0.011		
11'	202 483.278	-11333.496	-45.431	-160.919	0.630	-0.011		
12'	202 415.269	-11336.376	-45.439	-160.867	0.632	-0.011		
13'	202 347.242	-11339.254	-45.447	-160.815	0.635	-0.011		
14'	202 279.198	-11342.132	-45.454	-160.762	0.638	-0.011		
15'	202 211.136	-11345.009	-45.462	-160.710	0.641	-0.011		
16'	202 143.058	-11347.885	-45.469	-160.657	0.643	-0.011		
17'	202 074.962	-11350.760	-45.476	-160.605	0.646	-0.011		
18'	202 006.848	-11353.634	-45.484	-160.552	0.649	-0.011		
19'	201 938.718	-11356.507	-45.491	-160.500	0.652	-0.011		
20'	201 870.570	-11359.379	-45.499	-160.448	0.654	-0.011		
21'	201 802.406	-11362.250	-45.506	-160.395	0.657	-0.011		
22'	201 734.223	-11365.120	-45.513	-160.343	0.660	-0.010		
23'	201 666.024	-11367.990	-45.521	-160.290	0.663	-0.010		
24'	201 597.808	-11370.858	-45.528	-160.237	0.665	-0.010		
25'	201 529.574	-11373.725	-45.535	-160.185	0.668	-0.010	0.1	1
26'	201 461.323	-11376.592	-45.543	-160.132	0.671	-0.010	0.2	1
27'	201 393.055	-11379.457	-45.550	-160.080	0.674	-0.010	0.3	2
28'	201 324.769	-11382.322	-45.557	-160.027	0.676	-0.010	0.4	2
29'	201 256.467	-11385.185	-45.564	-159.975	0.679	-0.010	0.5	2
30'	201 188.147	-11388.048	-45.571	-159.922	0.682	-0.010	0.6	2
31'	201 119.810	-11390.910	-45.579	-159.869	0.685	-0.010	0.7	2
32'	201 051.456	-11393.771	-45.586	-159.817	0.687	-0.010	0.8	1
33'	200 983.085	-11396.630	-45.593	-159.764	0.690	-0.010	0.9	1
34'	200 914.697	-11399.489	-45.600	-159.711	0.693	-0.010	1.0	
35'	200 846.291	-11402.347	-45.607	-159.658	0.696	-0.010		
36'	200 777.868	-11405.204	-45.614	-159.606	0.698	-0.010		
37'	200 709.429	-11408.060	-45.621	-159.553	0.701	-0.010		
38'	200 640.972	-11410.915	-45.628	-159.500	0.704	-0.009		
39'	200 572.498	-11413.769	-45.635	-159.447	0.707	-0.009		
40'	200 504.006	-11416.622	-45.642	-159.395	0.709	-0.009		
41'	200 435.498	-11419.474	-45.649	-159.342	0.712	-0.009		
42'	200 366.973	-11422.325	-45.656	-159.289	0.715	-0.009		
43'	200 298.430	-11425.176	-45.663	-159.236	0.718	-0.009		
44'	200 229.871	-11428.025	-45.670	-159.183	0.721	-0.009		
45'	200 161.294	-11430.873	-45.677	-159.131	0.723	-0.009		
46'	200 092.700	-11433.721	-45.683	-159.078	0.726	-0.009		
47'	200 024.089	-11436.567	-45.690	-159.025	0.729	-0.009		
48'	199 955.461	-11439.413	-45.697	-158.972	0.732	-0.009		
49'	199 886.816	-11442.257	-45.704	-158.919	0.734	-0.009		
50'	199 818.154	-11445.101	-45.711	-158.866	0.737	-0.009		
51'	199 749.475	-11447.943	-45.717	-158.813	0.740	-0.009		
52'	199 680.779	-11450.785	-45.724	-158.760	0.743	-0.009		
53'	199 612.066	-11453.626	-45.731	-158.707	0.746	-0.009		
54'	199 543.335	-11456.466	-45.737	-158.654	0.748	-0.008		
55'	199 474.588	-11459.304	-45.744	-158.601	0.751	-0.008		
56'	199 405.824	-11462.142	-45.751	-158.548	0.754	-0.008		
57'	199 337.042	-11464.979	-45.757	-158.495	0.757	-0.008		
58'	199 268.244	-11467.815	-45.764	-158.442	0.759	-0.008		
59'	199 199.429	-11470.650	-45.770	-158.389	0.762	-0.008		
60'	199 130.596	-11473.484	-45.777	-158.336	0.765	-0.008		

Tłocznin długości linii geodezyjnej przez COSINUS azymutu X

$x_m = (\Delta\varphi \Delta\lambda^2 + \Delta\lambda^2 \Delta\varphi^2 + \dots)$ gdzie $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku
 $\Delta\lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku

$\varphi = 50^\circ$	$(\Delta\varphi)$	$(\Delta\lambda^2)$	$(\Delta\varphi^2)$	$(\Delta\varphi \Delta\lambda^2)$	$(\Delta\varphi^2 \Delta\lambda^2)$	$(\Delta\lambda^4)$
0'	308 934, 543	3697, 744	74, 126	- 162, 914	- 0, 386	- 5, 662
1'	308 935, 433	3697, 368	74, 119	- 163, 053	- 0, 387	- 5, 661
2'	308 936, 322	3696, 990	74, 111	- 163, 193	- 0, 389	- 5, 661
3'	308 937, 211	3696, 611	74, 104	- 163, 332	- 0, 390	- 5, 660
4'	308 938, 100	3696, 231	74, 097	- 163, 471	- 0, 391	- 5, 660
5'	308 938, 990	3695, 849	74, 089	- 163, 610	- 0, 393	- 5, 659
6'	308 939, 879	3695, 467	74, 082	- 163, 750	- 0, 394	- 5, 659
7'	308 940, 767	3695, 083	74, 075	- 163, 889	- 0, 396	- 5, 658
8'	308 941, 656	3694, 698	74, 067	- 164, 028	- 0, 397	- 5, 658
9'	308 942, 545	3694, 311	74, 060	- 164, 167	- 0, 398	- 5, 657
10'	308 943, 434	3693, 924	74, 052	- 164, 307	- 0, 400	- 5, 656
11'	308 944, 322	3693, 535	74, 045	- 164, 446	- 0, 401	- 5, 656
12'	308 945, 211	3693, 145	74, 037	- 164, 585	- 0, 402	- 5, 655
13'	308 946, 099	3692, 753	74, 029	- 164, 724	- 0, 404	- 5, 655
14'	308 946, 987	3692, 360	74, 022	- 164, 863	- 0, 405	- 5, 654
15'	308 947, 876	3691, 966	74, 014	- 165, 002	- 0, 407	- 5, 654
16'	308 948, 764	3691, 571	74, 007	- 165, 142	- 0, 408	- 5, 653
17'	308 949, 652	3691, 175	73, 999	- 165, 281	- 0, 409	- 5, 652
18'	308 950, 540	3690, 777	73, 991	- 165, 420	- 0, 411	- 5, 652
19'	308 951, 428	3690, 378	73, 984	- 165, 559	- 0, 412	- 5, 651
20'	308 952, 315	3689, 978	73, 976	- 165, 698	- 0, 414	- 5, 651
21'	308 953, 203	3689, 577	73, 968	- 165, 837	- 0, 415	- 5, 650
22'	308 954, 091	3689, 174	73, 960	- 165, 976	- 0, 416	- 5, 650
23'	308 954, 978	3688, 770	73, 952	- 166, 115	- 0, 418	- 5, 649
24'	308 955, 866	3688, 365	73, 945	- 166, 254	- 0, 419	- 5, 648
25'	308 956, 753	3687, 958	73, 937	- 166, 393	- 0, 421	- 5, 648
26'	308 957, 640	3687, 551	73, 929	- 166, 532	- 0, 422	- 5, 647
27'	308 958, 527	3687, 142	73, 921	- 166, 671	- 0, 423	- 5, 647
28'	308 959, 414	3686, 732	73, 913	- 166, 810	- 0, 425	- 5, 646
29'	308 960, 301	3686, 320	73, 905	- 166, 949	- 0, 426	- 5, 645
30'	308 961, 188	3685, 908	73, 897	- 167, 088	- 0, 428	- 5, 645
31'	308 962, 075	3685, 494	73, 889	- 167, 227	- 0, 429	- 5, 644
32'	308 962, 961	3685, 079	73, 881	- 167, 366	- 0, 430	- 5, 644
33'	308 963, 848	3684, 662	73, 873	- 167, 504	- 0, 432	- 5, 643
34'	308 964, 734	3684, 244	73, 865	- 167, 643	- 0, 433	- 5, 642
35'	308 965, 621	3683, 826	73, 857	- 167, 782	- 0, 435	- 5, 642
36'	308 966, 507	3683, 405	73, 849	- 167, 921	- 0, 436	- 5, 641
37'	308 967, 393	3682, 984	73, 840	- 168, 060	- 0, 437	- 5, 641
38'	308 968, 279	3682, 561	73, 832	- 168, 199	- 0, 439	- 5, 640
39'	308 969, 165	3682, 137	73, 824	- 168, 337	- 0, 440	- 5, 639
40'	308 970, 051	3681, 712	73, 816	- 168, 476	- 0, 442	- 5, 639
41'	308 970, 936	3681, 286	73, 807	- 168, 615	- 0, 443	- 5, 638
42'	308 971, 822	3680, 858	73, 799	- 168, 754	- 0, 444	- 5, 637
43'	308 972, 708	3680, 429	73, 791	- 168, 892	- 0, 446	- 5, 637
44'	308 973, 593	3679, 999	73, 782	- 169, 031	- 0, 447	- 5, 636
45'	308 974, 478	3679, 568	73, 774	- 169, 170	- 0, 449	- 5, 636
46'	308 975, 364	3679, 135	73, 766	- 169, 308	- 0, 450	- 5, 635
47'	308 976, 249	3678, 701	73, 757	- 169, 447	- 0, 451	- 5, 634
48'	308 977, 134	3678, 266	73, 749	- 169, 586	- 0, 453	- 5, 634
49'	308 978, 019	3677, 830	73, 740	- 169, 724	- 0, 454	- 5, 633
50'	308 978, 904	3677, 392	73, 732	- 169, 863	- 0, 456	- 5, 632
51'	308 979, 788	3676, 953	73, 723	- 170, 002	- 0, 457	- 5, 632
52'	308 980, 673	3676, 513	73, 715	- 170, 140	- 0, 458	- 5, 631
53'	308 981, 557	3676, 072	73, 706	- 170, 279	- 0, 460	- 5, 630
54'	308 982, 442	3675, 629	73, 698	- 170, 417	- 0, 461	- 5, 630
55'	308 983, 326	3675, 185	73, 689	- 170, 556	- 0, 462	- 5, 629
56'	308 984, 210	3674, 740	73, 680	- 170, 694	- 0, 464	- 5, 629
57'	308 985, 094	3674, 294	73, 672	- 170, 833	- 0, 465	- 5, 628
58'	308 985, 978	3673, 846	73, 663	- 170, 971	- 0, 467	- 5, 627
59'	308 986, 862	3673, 397	73, 654	- 171, 110	- 0, 468	- 5, 627
60'	308 987, 746	3672, 947	73, 646	- 171, 248	- 0, 470	- 5, 626

Łączyn długości linii geodezyjnej przez SINUS azymutu Y

$Y_m = (\Delta\lambda) \Delta\lambda' + (\Delta\varphi\Delta\lambda) \Delta\varphi\Delta\lambda' + (\Delta\lambda^2) \Delta\lambda^2 + \dots$ gdzie $\Delta\lambda$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.
 $\Delta\lambda'$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.

Poprawka interpo-
lacyjna dla wyrazu
 $\Delta\lambda$

$\varphi.50''$	$(\Delta\lambda)$	$(\Delta\varphi\Delta\lambda)$	$(\Delta\lambda^2)$	$(\Delta\varphi^2\Delta\lambda)$	$(\Delta\varphi\Delta\lambda^2)$	$(\Delta\varphi^3\Delta\lambda)$	$\Delta\lambda$		
0'	199 130. 596.	- 11 473. 484	- 45. 777	- 158. 336	0. 765	- 0. 008	K'	2.	
1'	199 061. 747	- 11 476. 317	- 45. 783	- 158. 283	0. 768	- 0. 008			
2'	198 992. 881	- 11 479. 149	- 45. 790	- 158. 230	0. 771	- 0. 008			
3'	198 923. 997	- 11 481. 980	- 45. 796	- 158. 177	0. 773	- 0. 008			
4'	198 855. 097	- 11 484. 810	- 45. 803	- 158. 124	0. 776	- 0. 008			
5'	198 786. 179	- 11 487. 640	- 45. 809	- 158. 070	0. 779	- 0. 008			
6'	198 717. 245	- 11 490. 468	- 45. 816	- 158. 017	0. 782	- 0. 008			
7'	198 648. 294	- 11 493. 295	- 45. 822	- 157. 964	0. 785	- 0. 008			
8'	198 579. 326	- 11 496. 122	- 45. 828	- 157. 911	0. 787	- 0. 008			
9'	198 510. 340	- 11 498. 947	- 45. 835	- 157. 858	0. 790	- 0. 007			
10'	198 441. 338	- 11 501. 771	- 45. 841	- 157. 804	0. 793	- 0. 007			
11'	198 372. 319	- 11 504. 595	- 45. 847	- 157. 751	0. 796	- 0. 007			
12'	198 303. 283	- 11 507. 417	- 45. 853	- 157. 698	0. 798	- 0. 007			
13'	198 234. 230	- 11 510. 239	- 45. 860	- 157. 645	0. 801	- 0. 007			
14'	198 165. 160	- 11 513. 059	- 45. 866	- 157. 591	0. 804	- 0. 007			
15'	198 096. 073	- 11 515. 879	- 45. 872	- 157. 538	0. 807	- 0. 007			
16'	198 026. 970	- 11 518. 698	- 45. 878	- 157. 485	0. 810	- 0. 007			
17'	197 957. 849	- 11 521. 515	- 45. 885	- 157. 431	0. 812	- 0. 007			
18'	197 888. 712	- 11 524. 332	- 45. 891	- 157. 378	0. 815	- 0. 007			
19'	197 819. 557	- 11 527. 148	- 45. 897	- 157. 325	0. 818	- 0. 007			
20'	197 750. 386	- 11 529. 963	- 45. 903	- 157. 271	0. 821	- 0. 007			
21'	197 681. 198	- 11 532. 776	- 45. 909	- 157. 218	0. 824	- 0. 007			
22'	197 611. 993	- 11 535. 589	- 45. 915	- 157. 165	0. 827	- 0. 007			
23'	197 542. 771	- 11 538. 401	- 45. 921	- 157. 111	0. 829	- 0. 007			
24'	197 473. 532	- 11 541. 212	- 45. 927	- 157. 058	0. 832	- 0. 007			
25'	197 404. 276	- 11 544. 022	- 45. 933	- 157. 004	0. 835	- 0. 006	01	1	
26'	197 335. 003	- 11 546. 831	- 45. 939	- 156. 951	0. 838	- 0. 006	02	1	
27'	197 265. 714	- 11 549. 639	- 45. 945	- 156. 897	0. 841	- 0. 006	03	2	
28'	197 196. 408	- 11 552. 446	- 45. 951	- 156. 844	0. 843	- 0. 006	04	2	
29'	197 127. 085	- 11 555. 252	- 45. 957	- 156. 790	0. 846	- 0. 006	05	2	
30'	197 057. 745	- 11 558. 057	- 45. 963	- 156. 737	0. 849	- 0. 006	06	2	
31'	196 988. 388	- 11 560. 862	- 45. 968	- 156. 683	0. 852	- 0. 006	07	2	
32'	196 919. 014	- 11 563. 665	- 45. 974	- 156. 630	0. 855	- 0. 006	08	1	
33'	196 849. 624	- 11 566. 467	- 45. 980	- 156. 576	0. 857	- 0. 006	09	1	
34'	196 780. 217	- 11 569. 268	- 45. 986	- 156. 523	0. 860	- 0. 006	10		
35'	196 710. 793	- 11 572. 069	- 45. 992	- 156. 469	0. 863	- 0. 006			
36'	196 641. 352	- 11 574. 868	- 45. 997	- 156. 415	0. 866	- 0. 006			
37'	196 571. 894	- 11 577. 667	- 46. 003	- 156. 362	0. 869	- 0. 006			
38'	196 502. 420	- 11 580. 464	- 46. 009	- 156. 308	0. 872	- 0. 006			
39'	196 432. 929	- 11 583. 260	- 46. 015	- 156. 254	0. 874	- 0. 005			
40'	196 363. 421	- 11 586. 056	- 46. 020	- 156. 201	0. 877	- 0. 005			
41'	196 293. 896	- 11 588. 850	- 46. 026	- 156. 147	0. 880	- 0. 005			
42'	196 224. 354	- 11 591. 644	- 46. 031	- 156. 093	0. 883	- 0. 005			
43'	196 154. 796	- 11 594. 437	- 46. 037	- 156. 040	0. 886	- 0. 005			
44'	196 085. 221	- 11 597. 228	- 46. 043	- 155. 986	0. 889	- 0. 005			
45'	196 015. 629	- 11 600. 019	- 46. 048	- 155. 932	0. 891	- 0. 005			
46'	195 946. 020	- 11 602. 808	- 46. 054	- 155. 878	0. 894	- 0. 005			
47'	195 876. 395	- 11 605. 597	- 46. 059	- 155. 825	0. 897	- 0. 005			
48'	195 806. 754	- 11 608. 385	- 46. 065	- 155. 771	0. 900	- 0. 005			
49'	195 737. 095	- 11 611. 172	- 46. 070	- 155. 717	0. 903	- 0. 005			
50'	195 667. 420	- 11 613. 957	- 46. 076	- 155. 663	0. 905	- 0. 005			
51'	195 597. 729	- 11 616. 742	- 46. 081	- 155. 609	0. 908	- 0. 005			
52'	195 528. 021	- 11 619. 526	- 46. 086	- 155. 556	0. 911	- 0. 005			
53'	195 458. 296	- 11 622. 309	- 46. 092	- 155. 502	0. 914	- 0. 005			
54'	195 388. 554	- 11 625. 091	- 46. 097	- 155. 448	0. 917	- 0. 005			
55'	195 318. 795	- 11 627. 872	- 46. 102	- 155. 394	0. 920	- 0. 004			
56'	195 249. 020	- 11 630. 652	- 46. 108	- 155. 340	0. 922	- 0. 004			
57'	195 179. 227	- 11 633. 431	- 46. 113	- 155. 286	0. 925	- 0. 004			
58'	195 109. 417	- 11 636. 209	- 46. 118	- 155. 232	0. 928	- 0. 004			
59'	195 039. 591	- 11 638. 986	- 46. 123	- 155. 178	0. 931	- 0. 004			
60'	194 969. 748	- 11 641. 762	- 46. 129	- 155. 124	0. 934	- 0. 004			

Łączyn długości linii geodezyjnej przez COSINUS azymutu X

$x_m = (\Delta\varphi) \Delta\varphi + (\Delta\lambda^2) \Delta\lambda^2 + (\Delta\varphi^2) \Delta\varphi^2 + \dots$ gdzie $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek.
 $\Delta\lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku

$\varphi \pm 51^\circ$	$(\Delta\varphi)$	$(\Delta\lambda^2)$	$(\Delta\varphi^2)$	$(\Delta\varphi\Delta\lambda^2)$	$(\Delta\varphi^3)$	$(\Delta\varphi^2\Delta\lambda^2)$	$(\Delta\lambda^3)$
0'	308 987. 746	3672. 947	73. 646	- 171. 248	- 0. 470	- 5. 626	- 0. 158
1'	308 988. 630	3672. 496	73. 637	- 171. 387	- 0. 471	- 5. 625	- 0. 159
2'	308 989. 514	3672. 043	73. 628	- 171. 525	- 0. 472	- 5. 625	- 0. 159
3'	308 990. 397	3671. 590	73. 619	- 171. 663	- 0. 474	- 5. 624	- 0. 160
4'	308 991. 280	3671. 135	73. 610	- 171. 802	- 0. 475	- 5. 623	- 0. 160
5'	308 992. 164	3670. 678	73. 602	- 171. 940	- 0. 477	- 5. 623	- 0. 160
6'	308 993. 047	3670. 221	73. 593	- 172. 078	- 0. 478	- 5. 622	- 0. 161
7'	308 993. 930	3669. 762	73. 584	- 172. 217	- 0. 479	- 5. 621	- 0. 161
8'	308 994. 813	3669. 302	73. 575	- 172. 355	- 0. 481	- 5. 621	- 0. 162
9'	308 995. 696	3668. 841	73. 566	- 172. 493	- 0. 482	- 5. 620	- 0. 162
10'	308 996. 578	3668. 378	73. 557	- 172. 631	- 0. 483	- 5. 619	- 0. 163
11'	308 997. 461	3667. 914	73. 548	- 172. 770	- 0. 485	- 5. 619	- 0. 163
12'	308 998. 344	3667. 449	73. 539	- 172. 908	- 0. 486	- 5. 618	- 0. 163
13'	308 999. 226	3666. 983	73. 530	- 173. 046	- 0. 488	- 5. 617	- 0. 163
14'	309 000. 108	3666. 516	73. 521	- 173. 184	- 0. 489	- 5. 616	- 0. 164
15'	309 000. 990	3666. 047	73. 512	- 173. 323	- 0. 490	- 5. 616	- 0. 164
16'	309 001. 873	3665. 577	73. 502	- 173. 461	- 0. 492	- 5. 615	- 0. 165
17'	309 002. 755	3665. 106	73. 493	- 173. 599	- 0. 493	- 5. 614	- 0. 165
18'	309 003. 636	3664. 633	73. 484	- 173. 737	- 0. 495	- 5. 614	- 0. 165
19'	309 004. 518	3664. 160	73. 475	- 173. 875	- 0. 496	- 5. 613	- 0. 166
20	309 005. 400	3663. 685	73. 466	- 174. 013	- 0. 497	- 5. 612	- 0. 166
21	309 006. 281	3663. 209	73. 456	- 174. 151	- 0. 499	- 5. 612	- 0. 167
22'	309 007. 163	3662. 731	73. 447	- 174. 289	- 0. 500	- 5. 611	- 0. 167
23'	309 008. 044	3662. 253	73. 438	- 174. 428	- 0. 502	- 5. 610	- 0. 167
24'	309 008. 925	3661. 773	73. 428	- 174. 566	- 0. 503	- 5. 610	- 0. 168
25'	309 009. 806	3661. 292	73. 419	- 174. 704	- 0. 504	- 5. 609	- 0. 168
26'	309 010. 687	3660. 809	73. 410	- 174. 842	- 0. 506	- 5. 608	- 0. 168
27'	309 011. 568	3660. 325	73. 400	- 174. 980	- 0. 507	- 5. 607	- 0. 169
28'	309 012. 449	3659. 841	73. 391	- 175. 118	- 0. 509	- 5. 607	- 0. 169
29'	309 013. 329	3659. 355	73. 381	- 175. 255	- 0. 510	- 5. 606	- 0. 170
30'	309 014. 210	3658. 867	73. 372	- 175. 393	- 0. 511	- 5. 605	- 0. 170
31'	309 015. 090	3658. 379	73. 362	- 175. 531	- 0. 513	- 5. 605	- 0. 170
32'	309 015. 971	3657. 889	73. 353	- 175. 669	- 0. 514	- 5. 604	- 0. 171
33'	309 016. 851	3657. 398	73. 343	- 175. 807	- 0. 515	- 5. 603	- 0. 171
34'	309 017. 731	3656. 905	73. 334	- 175. 945	- 0. 517	- 5. 602	- 0. 171
35'	309 018. 611	3656. 412	73. 324	- 176. 083	- 0. 518	- 5. 602	- 0. 172
36'	309 019. 491	3655. 917	73. 314	- 176. 221	- 0. 520	- 5. 601	- 0. 172
37'	309 020. 370	3655. 421	73. 305	- 176. 358	- 0. 521	- 5. 600	- 0. 173
38'	309 021. 250	3654. 924	73. 295	- 176. 496	- 0. 522	- 5. 599	- 0. 173
39'	309 022. 130	3654. 425	73. 285	- 176. 634	- 0. 524	- 5. 599	- 0. 173
40'	309 023. 009	3653. 926	73. 275	- 176. 772	- 0. 525	- 5. 598	- 0. 174
41'	309 023. 888	3653. 425	73. 266	- 176. 909	- 0. 527	- 5. 597	- 0. 174
42'	309 024. 767	3652. 922	73. 256	- 177. 047	- 0. 528	- 5. 597	- 0. 175
43'	309 025. 646	3652. 419	73. 246	- 177. 185	- 0. 529	- 5. 596	- 0. 175
44'	309 026. 525	3651. 914	73. 236	- 177. 323	- 0. 531	- 5. 595	- 0. 175
45'	309 027. 404	3651. 408	73. 226	- 177. 460	- 0. 532	- 5. 594	- 0. 176
46'	309 028. 283	3650. 901	73. 216	- 177. 598	- 0. 534	- 5. 594	- 0. 176
47'	309 029. 161	3650. 393	73. 207	- 177. 735	- 0. 535	- 5. 593	- 0. 176
48'	309 030. 039	3649. 883	73. 197	- 177. 873	- 0. 536	- 5. 592	- 0. 177
49'	309 030. 918	3649. 372	73. 187	- 178. 011	- 0. 538	- 5. 591	- 0. 177
50	309 031. 796	3648. 860	73. 177	- 178. 148	- 0. 539	- 5. 591	- 0. 178
51'	309 032. 674	3648. 347	73. 167	- 178. 286	- 0. 540	- 5. 590	- 0. 178
52'	309 033. 552	3647. 832	73. 157	- 178. 423	- 0. 542	- 5. 589	- 0. 178
53'	309 034. 430	3647. 316	73. 146	- 178. 561	- 0. 543	- 5. 588	- 0. 179
54'	309 035. 307	3646. 799	73. 136	- 178. 698	- 0. 545	- 5. 588	- 0. 179
55'	309 036. 185	3646. 281	73. 126	- 178. 836	- 0. 546	- 5. 587	- 0. 180
56'	309 037. 063	3645. 762	73. 116	- 178. 973	- 0. 547	- 5. 586	- 0. 180
57'	309 037. 940	3645. 241	73. 106	- 179. 111	- 0. 549	- 5. 585	- 0. 180
58'	309 038. 817	3644. 719	73. 096	- 179. 248	- 0. 550	- 5. 584	- 0. 181
59'	309 039. 694	3644. 196	73. 086	- 179. 385	- 0. 552	- 5. 584	- 0. 181
60'	309 040. 571	3643. 671	73. 075	- 179. 523	- 0. 553	- 5. 583	- 0. 181

Łączyn długości linii geodezyjnej przez SINUS azymutu Y

$y_m \cdot (\Delta\lambda) \Delta\lambda \cdot (\Delta\varphi\Delta\lambda) \Delta\varphi\Delta\lambda \cdot (\Delta\lambda^3) \Delta\lambda^3 \dots$ gdzie $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku
 $\Delta\lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku

Porównanie inter-
 polacyjne do wyznaczonego

$\varphi \pm 51^\circ$	$(\Delta\lambda)$	$(\Delta\varphi\Delta\lambda)$	$(\Delta\lambda^3)$	$(\Delta\varphi^2\Delta\lambda)$	$(\Delta\varphi\Delta\lambda^2)$	$(\Delta\varphi^3\Delta\lambda)$	$\Delta\lambda$	
							K	Q
0'	194 989.748	-116 44.762	-46.129	-155.124	0.934	-0.004		
1'	194 899.886	-116 44.537	-46.134	-155.070	0.937	-0.004		
2'	194 830.008	-116 47.311	-46.139	-155.016	0.939	-0.004		
3'	194 760.114	-116 50.084	-46.144	-154.962	0.942	-0.004		
4'	194 690.204	-116 52.856	-46.149	-154.908	0.945	-0.004		
5'	194 620.278	-116 55.628	-46.154	-154.854	0.948	-0.004		
6'	194 550.335	-116 58.398	-46.160	-154.800	0.951	-0.004		
7'	194 480.376	-116 61.167	-46.165	-154.746	0.954	-0.004		
8'	194 410.400	-116 63.935	-46.170	-154.692	0.957	-0.004		
9'	194 340.409	-116 66.703	-46.175	-154.638	0.959	-0.003		
10'	194 270.401	-116 69.469	-46.180	-154.584	0.962	-0.003		
11'	194 200.377	-116 72.234	-46.185	-154.530	0.965	-0.003		
12'	194 130.337	-116 74.999	-46.190	-154.476	0.968	-0.003		
13'	194 060.280	-116 77.762	-46.195	-154.422	0.971	-0.003		
14'	193 990.206	-116 80.525	-46.199	-154.367	0.974	-0.003		
15'	193 920.116	-116 83.286	-46.204	-154.313	0.976	-0.003		
16'	193 850.009	-116 86.046	-46.209	-154.259	0.979	-0.003		
17'	193 779.885	-116 88.806	-46.214	-154.205	0.982	-0.003		
18'	193 709.745	-116 91.565	-46.219	-154.151	0.985	-0.003		
19'	193 639.587	-116 94.322	-46.224	-154.096	0.988	-0.003		
20'	193 569.414	-116 97.079	-46.228	-154.042	0.991	-0.003		
21'	193 499.223	-116 99.834	-46.233	-153.988	0.994	-0.003		
22'	193 429.016	-117 02.589	-46.238	-153.934	0.996	-0.003		
23'	193 358.792	-117 05.342	-46.243	-153.879	0.999	-0.002		
24'	193 288.551	-117 08.095	-46.247	-153.825	1.002	-0.002		
25'	193 218.295	-117 10.847	-46.252	-153.771	1.005	-0.002	0.1	1
26'	193 148.021	-117 13.597	-46.257	-153.716	1.008	-0.002	0.2	1
27'	193 077.731	-117 16.347	-46.261	-153.662	1.011	-0.002	0.3	2
28'	193 007.425	-117 19.096	-46.266	-153.608	1.014	-0.002	0.4	2
29'	192 937.102	-117 21.844	-46.270	-153.553	1.016	-0.002	0.5	2
30'	192 866.763	-117 24.590	-46.275	-153.499	1.019	-0.002	0.6	2
31'	192 796.407	-117 27.336	-46.279	-153.444	1.022	-0.002	0.7	2
32'	192 726.035	-117 30.081	-46.284	-153.390	1.025	-0.002	0.8	1
33'	192 655.646	-117 32.825	-46.288	-153.336	1.028	-0.002	0.9	1
34'	192 585.241	-117 35.568	-46.293	-153.281	1.031	-0.002	1.0	
35'	192 514.819	-117 38.310	-46.297	-153.227	1.034	-0.002		
36'	192 444.381	-117 41.050	-46.302	-153.172	1.036	-0.002		
37'	192 373.927	-117 43.790	-46.306	-153.118	1.039	-0.002		
38'	192 303.456	-117 46.529	-46.310	-153.063	1.042	-0.001		
39'	192 232.968	-117 49.267	-46.315	-153.009	1.045	-0.001		
40'	192 162.465	-117 52.004	-46.319	-152.954	1.048	-0.001		
41'	192 091.944	-117 54.740	-46.323	-152.900	1.051	-0.001		
42'	192 021.408	-117 57.475	-46.328	-152.845	1.054	-0.001		
43'	191 950.854	-117 60.209	-46.332	-152.790	1.057	-0.001		
44'	191 880.285	-117 62.942	-46.336	-152.736	1.059	-0.001		
45'	191 809.699	-117 65.674	-46.340	-152.681	1.062	-0.001		
46'	191 739.097	-117 68.405	-46.345	-152.627	1.065	-0.001		
47'	191 668.478	-117 71.135	-46.349	-152.572	1.068	-0.001		
48'	191 597.843	-117 73.864	-46.353	-152.517	1.071	-0.001		
49'	191 527.192	-117 76.592	-46.357	-152.463	1.074	-0.001		
50'	191 456.524	-117 79.319	-46.361	-152.408	1.077	-0.001		
51'	191 385.840	-117 82.046	-46.365	-152.353	1.080	0.000		
52'	191 315.140	-117 84.771	-46.369	-152.298	1.082	0.000		
53'	191 244.423	-117 87.495	-46.373	-152.244	1.085	0.000		
54'	191 173.690	-117 90.218	-46.377	-152.189	1.088	0.000		
55'	191 102.940	-117 92.940	-46.381	-152.134	1.091	0.000		
56'	191 032.175	-117 95.661	-46.385	-152.080	1.094	0.000		
57'	190 961.392	-117 98.382	-46.389	-152.025	1.097	0.000		
58'	190 890.594	-118 01.101	-46.393	-151.970	1.100	0.000		
59'	190 819.779	-118 03.819	-46.397	-151.915	1.103	0.000		
60'	190 748.948	-118 06.536	-46.401	-151.860	1.106	0.000		

Tablica doznadzenia dugości linii geodezyjnej przez cosinus azymutu X

$x_n = (\Delta\varphi) \Delta\varphi - 6(\Delta\lambda) \Delta\lambda^2 - 6(\Delta\varphi) \Delta\varphi^2 \dots$ gdzie $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.
 $\Delta\lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.

$\varphi = 52^\circ$	$(\Delta\varphi)$	$(\Delta\lambda^2)$	$(\Delta\varphi^2)$	$(\Delta\varphi \Delta\lambda^2)$	$(\Delta\varphi^3)$	$(\Delta\varphi^2 \Delta\lambda^2)$	$(\Delta\lambda^3)$
0'	309040.571	3643.671	73.075	-179.523	-0.553	-5.583	-0.181
1'	309041.448	3643.145	73.065	-179.660	-0.554	-5.582	-0.182
2'	309042.325	3642.618	73.055	-179.798	-0.556	-5.581	-0.182
3'	309043.201	3642.090	73.044	-179.935	-0.557	-5.581	-0.183
4'	309044.078	3641.561	73.034	-180.072	-0.558	-5.580	-0.183
5'	309044.954	3641.030	73.024	-180.209	-0.560	-5.579	-0.183
6'	309045.830	3640.498	73.013	-180.347	-0.561	-5.578	-0.184
7'	309046.706	3639.965	73.003	-180.484	-0.563	-5.577	-0.184
8'	309047.582	3639.431	72.992	-180.621	-0.564	-5.577	-0.184
9'	309048.458	3638.895	72.982	-180.758	-0.565	-5.576	-0.185
10'	309049.334	3638.359	72.972	-180.895	-0.567	-5.575	-0.185
11'	309050.209	3637.821	72.961	-181.033	-0.568	-5.574	-0.186
12'	309051.085	3637.281	72.950	-181.170	-0.569	-5.573	-0.186
13'	309051.960	3636.741	72.940	-181.307	-0.571	-5.573	-0.186
14'	309052.835	3636.199	72.929	-181.444	-0.572	-5.572	-0.187
15'	309053.711	3635.656	72.919	-181.581	-0.574	-5.571	-0.187
16'	309054.586	3635.112	72.908	-181.718	-0.575	-5.570	-0.187
17'	309055.460	3634.567	72.897	-181.855	-0.576	-5.569	-0.188
18'	309056.335	3634.020	72.887	-181.992	-0.578	-5.569	-0.188
19'	309057.210	3633.472	72.876	-182.129	-0.579	-5.568	-0.189
20'	309058.084	3632.923	72.865	-182.266	-0.581	-5.567	-0.189
21'	309058.958	3632.373	72.855	-182.403	-0.582	-5.566	-0.189
22'	309059.833	3631.821	72.844	-182.540	-0.583	-5.565	-0.190
23'	309060.707	3631.268	72.833	-182.677	-0.585	-5.565	-0.190
24'	309061.581	3630.714	72.822	-182.814	-0.586	-5.564	-0.190
25'	309062.454	3630.159	72.811	-182.951	-0.587	-5.563	-0.191
26'	309063.328	3629.602	72.800	-183.088	-0.589	-5.562	-0.191
27'	309064.202	3629.045	72.789	-183.225	-0.590	-5.561	-0.191
28'	309065.075	3628.486	72.778	-183.361	-0.592	-5.560	-0.192
29'	309065.948	3627.925	72.767	-183.498	-0.593	-5.560	-0.192
30'	309066.821	3627.364	72.756	-183.635	-0.594	-5.559	-0.193
31'	309067.694	3626.801	72.745	-183.772	-0.596	-5.558	-0.193
32'	309068.567	3626.237	72.734	-183.908	-0.597	-5.557	-0.193
33'	309069.440	3625.672	72.723	-184.045	-0.598	-5.556	-0.194
34'	309070.313	3625.106	72.712	-184.182	-0.600	-5.555	-0.194
35'	309071.185	3624.538	72.701	-184.318	-0.601	-5.555	-0.194
36'	309072.057	3623.970	72.690	-184.455	-0.603	-5.554	-0.195
37'	309072.930	3623.400	72.679	-184.592	-0.604	-5.553	-0.195
38'	309073.802	3622.828	72.668	-184.728	-0.605	-5.552	-0.196
39'	309074.674	3622.256	72.656	-184.865	-0.607	-5.551	-0.196
40'	309075.545	3621.682	72.645	-185.002	-0.608	-5.550	-0.196
41'	309076.417	3621.107	72.634	-185.138	-0.609	-5.550	-0.197
42'	309077.289	3620.531	72.623	-185.275	-0.611	-5.549	-0.197
43'	309078.160	3619.954	72.611	-185.411	-0.612	-5.548	-0.197
44'	309079.031	3619.375	72.600	-185.548	-0.614	-5.547	-0.198
45'	309079.902	3618.795	72.589	-185.684	-0.615	-5.546	-0.198
46'	309080.773	3618.214	72.577	-185.820	-0.616	-5.545	-0.199
47'	309081.644	3617.632	72.566	-185.957	-0.618	-5.544	-0.199
48'	309082.515	3617.048	72.554	-186.093	-0.619	-5.544	-0.199
49'	309083.386	3616.464	72.543	-186.230	-0.621	-5.543	-0.200
50'	309084.256	3615.878	72.531	-186.366	-0.622	-5.542	-0.200
51'	309085.126	3615.290	72.520	-186.502	-0.623	-5.541	-0.200
52'	309085.996	3614.702	72.508	-186.639	-0.625	-5.540	-0.201
53'	309086.866	3614.112	72.497	-186.775	-0.626	-5.539	-0.201
54'	309087.736	3613.521	72.485	-186.911	-0.627	-5.538	-0.201
55'	309088.606	3612.929	72.474	-187.047	-0.629	-5.538	-0.202
56'	309089.476	3612.336	72.462	-187.184	-0.630	-5.537	-0.202
57'	309090.345	3611.741	72.450	-187.320	-0.631	-5.536	-0.202
58'	309091.215	3611.146	72.439	-187.456	-0.633	-5.535	-0.203
59'	309092.084	3610.549	72.427	-187.592	-0.634	-5.534	-0.203
60'	309092.953	3609.950	72.415	-187.728	-0.636	-5.533	-0.204

Tablica długości linii geodezyjnej przez sinus azymutu Y

$Y_m = (\Delta A) \Delta A' - (\Delta \varphi \Delta A) \Delta \varphi A' - (\Delta A') \Delta A' \dots$ gdzie ΔA przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku, $\Delta \varphi$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku, $\Delta A'$ poprawka interpolacyjna dla wyrazu

$\varphi \cdot 52''$	(ΔA)	$(\Delta \varphi \Delta A)$	$(\Delta A')$	$(\Delta \varphi \Delta A')$	$(\Delta \varphi \Delta A)$	$(\Delta \varphi \Delta A')$	$\Delta A'$	K'	Z
0'	190 748. 948	- 11 806. 536	- 46. 401	- 151. 860	1. 106	0. 000			
1'	190 678. 101	- 11 809. 253	- 46. 405	- 151. 895	1. 108	0. 000			
2'	190 607. 237	- 11 811. 968	- 46. 408	- 151. 931	1. 111	0. 000			
3'	190 536. 357	- 11 814. 682	- 46. 412	- 151. 966	1. 114	0. 000			
4'	190 465. 461	- 11 817. 395	- 46. 416	- 151. 641	1. 117	0. 000			
5'	190 394. 549	- 11 820. 108	- 46. 420	- 151. 586	1. 120	0. 000			
6'	190 323. 620	- 11 822. 819	- 46. 424	- 151. 531	1. 123	0. 001			
7'	190 252. 675	- 11 825. 529	- 46. 427	- 151. 476	1. 126	0. 001			
8'	190 181. 714	- 11 828. 239	- 46. 431	- 151. 421	1. 129	0. 001			
9'	190 110. 736	- 11 830. 947	- 46. 435	- 151. 366	1. 132	0. 001			
10'	190 039. 742	- 11 833. 654	- 46. 438	- 151. 311	1. 134	0. 001			
11'	189 968. 732	- 11 836. 361	- 46. 442	- 151. 256	1. 137	0. 001			
12'	189 897. 708	- 11 839. 066	- 46. 445	- 151. 201	1. 140	0. 001			
13'	189 826. 663	- 11 841. 770	- 46. 449	- 151. 146	1. 143	0. 001			
14'	189 755. 605	- 11 844. 474	- 46. 453	- 151. 091	1. 146	0. 001			
15'	189 684. 530	- 11 847. 176	- 46. 456	- 151. 036	1. 149	0. 001			
16'	189 613. 439	- 11 849. 877	- 46. 460	- 150. 981	1. 152	0. 001			
17'	189 542. 331	- 11 852. 578	- 46. 463	- 150. 926	1. 155	0. 001			
18'	189 471. 208	- 11 855. 277	- 46. 467	- 150. 871	1. 158	0. 001			
19'	189 400. 068	- 11 857. 976	- 46. 470	- 150. 816	1. 160	0. 001			
20'	189 328. 912	- 11 860. 673	- 46. 473	- 150. 761	1. 163	0. 001			
21'	189 257. 740	- 11 863. 370	- 46. 477	- 150. 706	1. 166	0. 002			
22'	189 186. 551	- 11 866. 065	- 46. 480	- 150. 650	1. 169	0. 002			
23'	189 115. 347	- 11 868. 759	- 46. 484	- 150. 595	1. 172	0. 002			
24'	189 044. 126	- 11 871. 453	- 46. 487	- 150. 540	1. 175	0. 002			
25'	188 972. 890	- 11 874. 145	- 46. 490	- 150. 485	1. 178	0. 002	0.1	1	
26'	188 901. 637	- 11 876. 837	- 46. 493	- 150. 430	1. 181	0. 002	0.2	1	
27'	188 830. 368	- 11 879. 527	- 46. 497	- 150. 375	1. 184	0. 002	0.3	2	
28'	188 759. 082	- 11 882. 217	- 46. 500	- 150. 319	1. 187	0. 002	0.4	2	
29'	188 687. 781	- 11 884. 905	- 46. 503	- 150. 264	1. 190	0. 002	0.5	2	
30'	188 616. 463	- 11 887. 593	- 46. 506	- 150. 209	1. 192	0. 002	0.6	2	
31'	188 545. 130	- 11 890. 279	- 46. 509	- 150. 154	1. 195	0. 002	0.7	2	
32'	188 473. 780	- 11 892. 965	- 46. 513	- 150. 098	1. 198	0. 002	0.8	1	
33'	188 402. 414	- 11 895. 649	- 46. 516	- 150. 043	1. 201	0. 002	0.9	1	
34'	188 331. 032	- 11 898. 332	- 46. 519	- 149. 988	1. 204	0. 002	1.0		
35'	188 259. 634	- 11 901. 015	- 46. 522	- 149. 932	1. 207	0. 003			
36'	188 188. 220	- 11 903. 696	- 46. 525	- 149. 877	1. 210	0. 003			
37'	188 116. 790	- 11 906. 377	- 46. 528	- 149. 822	1. 213	0. 003			
38'	188 045. 344	- 11 909. 056	- 46. 531	- 149. 766	1. 216	0. 003			
39'	187 973. 881	- 11 911. 735	- 46. 534	- 149. 711	1. 219	0. 003			
40'	187 902. 403	- 11 914. 412	- 46. 537	- 149. 655	1. 222	0. 003			
41'	187 830. 908	- 11 917. 089	- 46. 540	- 149. 600	1. 224	0. 003			
42'	187 759. 398	- 11 919. 764	- 46. 543	- 149. 545	1. 227	0. 003			
43'	187 687. 871	- 11 922. 431	- 46. 546	- 149. 489	1. 230	0. 003			
44'	187 616. 328	- 11 925. 112	- 46. 548	- 149. 434	1. 233	0. 003			
45'	187 544. 770	- 11 927. 785	- 46. 551	- 149. 378	1. 236	0. 003			
46'	187 473. 195	- 11 930. 456	- 46. 554	- 149. 323	1. 239	0. 003			
47'	187 401. 604	- 11 933. 127	- 46. 557	- 149. 267	1. 242	0. 003			
48'	187 329. 997	- 11 935. 798	- 46. 560	- 149. 212	1. 245	0. 003			
49'	187 258. 375	- 11 938. 465	- 46. 562	- 149. 156	1. 248	0. 004			
50'	187 186. 736	- 11 941. 132	- 46. 565	- 149. 101	1. 251	0. 004			
51'	187 115. 081	- 11 943. 789	- 46. 568	- 149. 045	1. 254	0. 004			
52'	187 043. 410	- 11 946. 444	- 46. 571	- 148. 990	1. 257	0. 004			
53'	186 971. 723	- 11 949. 129	- 46. 573	- 148. 934	1. 259	0. 004			
54'	186 900. 021	- 11 951. 792	- 46. 576	- 148. 878	1. 262	0. 004			
55'	186 828. 302	- 11 954. 455	- 46. 578	- 148. 823	1. 265	0. 004			
56'	186 756. 567	- 11 957. 116	- 46. 581	- 148. 767	1. 268	0. 004			
57'	186 684. 816	- 11 959. 777	- 46. 584	- 148. 712	1. 271	0. 004			
58'	186 613. 050	- 11 962. 436	- 46. 586	- 148. 656	1. 274	0. 004			
59'	186 541. 267	- 11 965. 095	- 46. 589	- 148. 600	1. 277	0. 004			
60'	186 469. 469	- 11 967. 752	- 46. 591	- 148. 544	1. 280	0. 004			

Wzrosty długości linii geodezyjnej przez Cosinus azymutu X

$X_m = (\Delta\varphi) \Delta\varphi (\Delta\lambda) \Delta\lambda^2 (\Delta\varphi^2) \Delta\varphi^3 \dots$ gdzie: $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.
 $\Delta\lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.

$\varphi.53'$	$(\Delta\varphi)$	$(\Delta\lambda)$	$(\Delta\varphi^2)$	$(\Delta\varphi\Delta\lambda)$	$(\Delta\varphi^3)$	$(\Delta\varphi^2\Delta\lambda)$	$(\Delta\lambda^3)$
0'	309 092.953	3609.950	72.416	187.728	- 0.836	- 5.533	- 0.203
1'	309 093.822	3609.351	72.404	187.864	- 0.637	- 5.532	- 0.204
2'	309 094.691	3608.750	72.392	188.001	- 0.638	- 5.531	- 0.204
3'	309 095.559	3608.148	72.380	188.137	- 0.640	- 5.530	- 0.205
4'	309 096.428	3607.545	72.368	188.273	- 0.641	- 5.530	- 0.205
5'	309 097.296	3606.941	72.356	188.409	- 0.642	- 5.529	- 0.205
6'	309 098.164	3606.335	72.344	188.545	- 0.644	- 5.528	- 0.206
7'	309 099.032	3605.729	72.332	188.681	- 0.645	- 5.527	- 0.206
8'	309 099.900	3605.121	72.321	188.817	- 0.647	- 5.526	- 0.206
9'	309 100.768	3604.511	72.309	188.952	- 0.648	- 5.525	- 0.207
10'	309 101.636	3603.901	72.297	189.088	- 0.649	- 5.524	- 0.207
11'	309 102.503	3603.289	72.285	189.224	- 0.651	- 5.523	- 0.207
12'	309 103.371	3602.676	72.273	189.360	- 0.652	- 5.522	- 0.208
13'	309 104.238	3602.062	72.261	189.496	- 0.653	- 5.521	- 0.208
14'	309 105.105	3601.447	72.248	189.632	- 0.655	- 5.520	- 0.209
15'	309 105.972	3600.830	72.236	189.768	- 0.656	- 5.520	- 0.209
16'	309 106.839	3600.213	72.224	189.903	- 0.658	- 5.519	- 0.209
17'	309 107.705	3599.594	72.212	190.039	- 0.659	- 5.518	- 0.210
18'	309 108.572	3598.973	72.200	190.175	- 0.660	- 5.517	- 0.210
19'	309 109.438	3598.352	72.188	190.311	- 0.662	- 5.516	- 0.210
20'	309 110.304	3597.729	72.175	190.446	- 0.663	- 5.515	- 0.211
21'	309 111.170	3597.105	72.163	190.582	- 0.664	- 5.514	- 0.211
22'	309 112.036	3596.480	72.151	190.717	- 0.666	- 5.513	- 0.211
23'	309 112.902	3595.854	72.139	190.853	- 0.667	- 5.512	- 0.212
24'	309 113.767	3595.226	72.126	190.989	- 0.668	- 5.511	- 0.212
25'	309 114.633	3594.598	72.114	191.124	- 0.670	- 5.510	- 0.212
26'	309 115.498	3593.968	72.102	191.260	- 0.671	- 5.509	- 0.213
27'	309 116.363	3593.336	72.089	191.395	- 0.673	- 5.508	- 0.213
28'	309 117.228	3592.704	72.077	191.531	- 0.674	- 5.507	- 0.214
29'	309 118.093	3592.070	72.064	191.666	- 0.675	- 5.507	- 0.214
30'	309 118.958	3591.436	72.052	191.802	- 0.677	- 5.506	- 0.214
31'	309 119.822	3590.800	72.039	191.937	- 0.678	- 5.505	- 0.215
32'	309 120.687	3590.162	72.027	192.073	- 0.679	- 5.504	- 0.215
33'	309 121.551	3589.524	72.014	192.208	- 0.681	- 5.503	- 0.215
34'	309 122.415	3588.884	72.002	192.343	- 0.682	- 5.502	- 0.216
35'	309 123.279	3588.243	71.989	192.479	- 0.684	- 5.501	- 0.216
36'	309 124.143	3587.601	71.977	192.614	- 0.685	- 5.500	- 0.216
37'	309 125.006	3586.958	71.964	192.749	- 0.686	- 5.499	- 0.217
38'	309 125.870	3586.313	71.951	192.884	- 0.688	- 5.498	- 0.217
39'	309 126.733	3585.667	71.939	193.020	- 0.690	- 5.497	- 0.217
40'	309 127.596	3585.020	71.926	193.155	- 0.690	- 5.496	- 0.218
41'	309 128.459	3584.372	71.913	193.290	- 0.692	- 5.495	- 0.218
42'	309 129.322	3583.723	71.900	193.425	- 0.693	- 5.494	- 0.218
43'	309 130.185	3583.072	71.888	193.560	- 0.694	- 5.493	- 0.219
44'	309 131.048	3582.420	71.875	193.696	- 0.696	- 5.492	- 0.219
45'	309 131.910	3581.767	71.862	193.831	- 0.697	- 5.491	- 0.219
46'	309 132.772	3581.113	71.849	193.966	- 0.699	- 5.490	- 0.220
47'	309 133.634	3580.457	71.836	194.101	- 0.700	- 5.489	- 0.220
48'	309 134.496	3579.800	71.823	194.236	- 0.701	- 5.488	- 0.220
49'	309 135.358	3579.142	71.810	194.371	- 0.703	- 5.487	- 0.221
50'	309 136.220	3578.483	71.797	194.506	- 0.704	- 5.486	- 0.221
51'	309 137.081	3577.823	71.784	194.641	- 0.705	- 5.485	- 0.222
52'	309 137.943	3577.161	71.771	194.776	- 0.707	- 5.484	- 0.222
53'	309 138.804	3576.499	71.758	194.910	- 0.708	- 5.483	- 0.222
54'	309 139.665	3575.835	71.745	195.045	- 0.709	- 5.482	- 0.223
55'	309 140.526	3575.169	71.732	195.180	- 0.711	- 5.481	- 0.223
56'	309 141.386	3574.503	71.719	195.315	- 0.712	- 5.480	- 0.223
57'	309 142.247	3573.835	71.706	195.450	- 0.714	- 5.479	- 0.224
58'	309 143.107	3573.166	71.693	195.585	- 0.715	- 5.478	- 0.224
59'	309 143.968	3572.496	71.680	195.719	- 0.716	- 5.477	- 0.224
60'	309 144.828	3571.825	71.666	195.854	- 0.718	- 5.476	- 0.225

Wzrosty długości linii geodezyjnej przez sinus azymutu Y

$y_m = (\Delta A) \Delta \lambda + (\Delta \varphi) \Delta \lambda + (\Delta \varphi^2) \Delta \lambda^2 + \dots$ gdzie $\Delta \lambda$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku, $\Delta \varphi$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.

Porządkowa interpo-
lacyjna różnica

$\varphi = 53^\circ$	(ΔA)	$(\Delta \varphi)$	$(\Delta \lambda)$	$(\Delta \varphi^2 \Delta \lambda)$	$(\Delta \varphi \Delta \lambda^2)$	$(\Delta \varphi^3 \Delta \lambda^3)$	$\Delta \lambda$	κ'	Σ
0'	186 469.469	-119 67.752	-46.591	-148.544	1.280	0.004			
1'	186 397.634	-119 70.408	-46.594	-148.489	1.283	0.004			
2'	186 325.824	-119 73.064	-46.596	-148.433	1.286	0.004			
3'	186 253.977	-119 75.719	-46.599	-148.377	1.289	0.005			
4'	186 182.115	-119 78.372	-46.601	-148.322	1.292	0.005			
5'	186 110.237	-119 81.025	-46.603	-148.266	1.295	0.005			
6'	186 038.343	-119 83.676	-46.606	-148.210	1.297	0.005			
7'	185 966.434	-119 86.327	-46.608	-148.154	1.300	0.005			
8'	185 894.507	-119 88.976	-46.610	-148.099	1.303	0.005			
9'	185 822.565	-119 91.624	-46.613	-148.043	1.306	0.005			
10'	185 750.607	-119 94.272	-46.615	-147.987	1.309	0.005			
11'	185 678.634	-119 96.918	-46.617	-147.931	1.312	0.005			
12'	185 606.644	-119 99.564	-46.619	-147.875	1.315	0.005			
13'	185 534.639	-120 02.208	-46.622	-147.819	1.318	0.005			
14'	185 462.618	-120 04.852	-46.624	-147.763	1.321	0.005			
15'	185 390.581	-120 07.494	-46.626	-147.707	1.324	0.005			
16'	185 318.528	-120 10.135	-46.628	-147.652	1.327	0.005			
17'	185 246.459	-120 12.776	-46.630	-147.596	1.330	0.005			
18'	185 174.375	-120 15.415	-46.632	-147.540	1.333	0.006			
19'	185 102.274	-120 18.053	-46.634	-147.484	1.336	0.006			
20'	185 030.158	-120 20.691	-46.636	-147.428	1.339	0.006			
21'	184 958.026	-120 23.327	-46.638	-147.372	1.341	0.006			
22'	184 885.878	-120 25.963	-46.640	-147.316	1.344	0.006			
23'	184 813.714	-120 28.597	-46.642	-147.260	1.347	0.006			
24'	184 741.535	-120 31.230	-46.644	-147.204	1.350	0.006			
25'	184 669.340	-120 33.862	-46.646	-147.148	1.353	0.006	0.1	1	
26'	184 597.129	-120 36.494	-46.648	-147.092	1.356	0.006	0.2	1	
27'	184 524.902	-120 39.124	-46.650	-147.036	1.359	0.006	0.3	2	
28'	184 452.659	-120 41.753	-46.652	-146.980	1.362	0.006	0.4	2	
29'	184 380.401	-120 44.382	-46.653	-146.924	1.365	0.006	0.5	2	
30'	184 308.127	-120 47.009	-46.655	-146.868	1.368	0.006	0.6	2	
31'	184 235.837	-120 49.635	-46.657	-146.811	1.371	0.006	0.7	2	
32'	184 163.531	-120 52.260	-46.659	-146.755	1.374	0.007	0.8	1	
33'	184 091.210	-120 54.885	-46.660	-146.699	1.377	0.007	0.9	1	
34'	184 018.872	-120 57.508	-46.662	-146.643	1.380	0.007	1.0		
35'	183 946.520	-120 60.130	-46.664	-146.587	1.383	0.007			
36'	183 874.151	-120 62.751	-46.665	-146.531	1.386	0.007			
37'	183 801.766	-120 65.371	-46.667	-146.474	1.389	0.007			
38'	183 729.366	-120 67.991	-46.669	-146.418	1.392	0.007			
39'	183 656.951	-120 70.609	-46.670	-146.362	1.394	0.007			
40'	183 584.519	-120 73.226	-46.672	-146.306	1.397	0.007			
41'	183 512.072	-120 75.842	-46.673	-146.249	1.400	0.007			
42'	183 439.609	-120 78.457	-46.675	-146.193	1.403	0.007			
43'	183 367.130	-120 81.071	-46.676	-146.137	1.406	0.007			
44'	183 294.636	-120 83.684	-46.678	-146.081	1.409	0.007			
45'	183 222.126	-120 86.296	-46.679	-146.024	1.412	0.008			
46'	183 149.601	-120 88.908	-46.681	-145.968	1.415	0.008			
47'	183 077.059	-120 91.518	-46.682	-145.912	1.418	0.008			
48'	183 004.502	-120 94.127	-46.684	-145.855	1.421	0.008			
49'	182 931.930	-120 96.735	-46.685	-145.799	1.424	0.008			
50'	182 859.342	-120 99.342	-46.686	-145.742	1.427	0.008			
51'	182 786.738	-121 01.948	-46.688	-145.686	1.430	0.008			
52'	182 714.118	-121 04.553	-46.689	-145.630	1.433	0.008			
53'	182 641.483	-121 07.157	-46.690	-145.573	1.436	0.008			
54'	182 568.832	-121 09.760	-46.691	-145.517	1.439	0.008			
55'	182 496.166	-121 12.362	-46.693	-145.460	1.442	0.008			
56'	182 423.484	-121 14.962	-46.694	-145.404	1.445	0.008			
57'	182 350.786	-121 17.562	-46.695	-145.347	1.448	0.008			
58'	182 278.073	-121 20.161	-46.696	-145.291	1.450	0.008			
59'	182 205.344	-121 22.759	-46.697	-145.234	1.453	0.009			
60'	182 132.600	-121 25.356	-46.698	-145.178	1.456	0.009			

Tablica długości linii geodezyjnej przez COSINUS azymutu X

$x_m = (\Delta\varphi) \Delta\varphi^2 (\Delta\lambda)^2 (\Delta\varphi)^2 \dots$ gdzie $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.
 $\Delta\lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.

$\varphi, 54^\circ$	$(\Delta\varphi)$	$(\Delta\lambda)$	$(\Delta\varphi^2)$	$(\Delta\varphi\Delta\lambda)$	$(\Delta\lambda^2)$	$(\Delta\varphi^3)$	$(\Delta\varphi^2\Delta\lambda)$	$(\Delta\lambda^3)$
0'	309 144.828	3571.825	71.666	- 195.854	- 2.718	- 5.476	- 0.225	
1'	309 146.888	3571.153	71.653	- 195.989	- 0.719	- 5.475	- 0.225	
2'	309 148.547	3570.479	71.640	- 196.123	- 0.720	- 5.474	- 0.225	
3'	309 147.407	3569.804	71.627	- 196.258	- 0.722	- 5.473	- 0.226	
4'	309 148.266	3569.128	71.613	- 196.393	- 0.723	- 5.472	- 0.226	
5'	309 149.186	3568.451	71.600	- 196.527	- 0.724	- 5.471	- 0.226	
6'	309 149.985	3567.772	71.587	- 196.662	- 0.726	- 5.470	- 0.227	
7'	309 150.844	3567.093	71.573	- 196.797	- 0.727	- 5.469	- 0.227	
8'	309 151.703	3566.412	71.560	- 196.931	- 0.728	- 5.468	- 0.227	
9'	309 152.561	3565.729	71.546	- 197.066	- 0.730	- 5.467	- 0.228	
10'	309 153.420	3565.046	71.533	- 197.200	- 0.731	- 5.466	- 0.228	
11'	309 154.278	3564.362	71.519	- 197.334	- 0.733	- 5.465	- 0.228	
12'	309 155.136	3563.676	71.506	- 197.469	- 0.734	- 5.464	- 0.229	
13'	309 155.994	3562.989	71.492	- 197.603	- 0.735	- 5.463	- 0.229	
14'	309 156.852	3562.301	71.479	- 197.738	- 0.737	- 5.462	- 0.229	
15'	309 157.710	3561.611	71.465	- 197.872	- 0.738	- 5.461	- 0.230	
16'	309 158.567	3560.921	71.452	- 198.006	- 0.739	- 5.460	- 0.230	
17'	309 159.425	3560.229	71.438	- 198.141	- 0.741	- 5.459	- 0.230	
18'	309 160.282	3559.536	71.424	- 198.275	- 0.742	- 5.458	- 0.231	
19'	309 161.138	3558.842	71.411	- 198.409	- 0.743	- 5.457	- 0.231	
20'	309 161.996	3558.146	71.397	- 198.543	- 0.745	- 5.456	- 0.231	
21'	309 162.852	3557.447	71.383	- 198.678	- 0.746	- 5.455	- 0.232	
22'	309 163.709	3556.752	71.370	- 198.812	- 0.748	- 5.454	- 0.232	
23'	309 164.565	3556.053	71.356	- 198.946	- 0.749	- 5.453	- 0.232	
24'	309 165.421	3555.352	71.342	- 199.080	- 0.750	- 5.452	- 0.233	
25'	309 166.277	3554.651	71.328	- 199.214	- 0.752	- 5.451	- 0.233	
26'	309 167.133	3553.948	71.314	- 199.348	- 0.753	- 5.450	- 0.233	
27'	309 167.989	3553.244	71.301	- 199.482	- 0.754	- 5.449	- 0.234	
28'	309 168.844	3552.539	71.287	- 199.616	- 0.756	- 5.448	- 0.234	
29'	309 169.700	3551.833	71.273	- 199.750	- 0.757	- 5.447	- 0.234	
30'	309 170.555	3551.125	71.259	- 199.884	- 0.758	- 5.446	- 0.235	
31'	309 171.410	3550.417	71.245	- 200.018	- 0.760	- 5.445	- 0.235	
32'	309 172.265	3549.707	71.231	- 200.152	- 0.761	- 5.443	- 0.235	
33'	309 173.120	3548.996	71.217	- 200.286	- 0.762	- 5.442	- 0.236	
34'	309 173.974	3548.283	71.203	- 200.420	- 0.764	- 5.441	- 0.236	
35'	309 174.838	3547.570	71.189	- 200.554	- 0.765	- 5.440	- 0.236	
36'	309 175.693	3546.855	71.175	- 200.687	- 0.766	- 5.439	- 0.237	
37'	309 176.537	3546.139	71.161	- 200.821	- 0.768	- 5.438	- 0.237	
38'	309 177.391	3545.422	71.146	- 200.955	- 0.769	- 5.437	- 0.237	
39'	309 178.244	3544.704	71.132	- 201.089	- 0.771	- 5.436	- 0.238	
40'	309 179.098	3543.984	71.118	- 201.222	- 0.772	- 5.435	- 0.238	
41'	309 179.951	3543.263	71.104	- 201.356	- 0.773	- 5.434	- 0.238	
42'	309 180.804	3542.542	71.090	- 201.490	- 0.775	- 5.433	- 0.239	
43'	309 181.657	3541.818	71.075	- 201.623	- 0.776	- 5.432	- 0.239	
44'	309 182.510	3541.094	71.061	- 201.757	- 0.777	- 5.431	- 0.239	
45'	309 183.363	3540.369	71.047	- 201.890	- 0.779	- 5.430	- 0.240	
46'	309 184.215	3539.642	71.033	- 202.024	- 0.780	- 5.428	- 0.240	
47'	309 185.067	3538.914	71.019	- 202.158	- 0.781	- 5.427	- 0.240	
48'	309 185.920	3538.185	71.004	- 202.291	- 0.783	- 5.426	- 0.241	
49'	309 186.772	3537.455	70.989	- 202.424	- 0.784	- 5.425	- 0.241	
50'	309 187.623	3536.723	70.975	- 202.558	- 0.785	- 5.424	- 0.241	
51'	309 188.475	3535.990	70.961	- 202.691	- 0.787	- 5.423	- 0.242	
52'	309 189.326	3535.256	70.946	- 202.825	- 0.788	- 5.422	- 0.242	
53'	309 190.178	3534.521	70.932	- 202.958	- 0.789	- 5.421	- 0.242	
54'	309 191.029	3533.785	70.917	- 203.091	- 0.791	- 5.420	- 0.243	
55'	309 191.880	3533.047	70.903	- 203.225	- 0.792	- 5.419	- 0.243	
56'	309 192.730	3532.309	70.888	- 203.358	- 0.794	- 5.418	- 0.243	
57'	309 193.581	3531.569	70.873	- 203.491	- 0.795	- 5.416	- 0.244	
58'	309 194.431	3530.828	70.859	- 203.624	- 0.796	- 5.415	- 0.244	
59'	309 195.282	3530.085	70.844	- 203.758	- 0.798	- 5.414	- 0.244	
60'	309 196.132	3529.342	70.830	- 203.891	- 0.799	- 5.413	- 0.245	

Łączyn długości linii geodezyjnej przez $\sin \alpha$ azymutu Y

$Y_m = (\Delta A) \Delta h + (\Delta \varphi \Delta h) \Delta \varphi \Delta h + (\Delta A^2) \Delta h^2 + \dots$ gdzie Δh przyrost długości geogr. wyrażony w dziesiątkach tysięcy sekund, $\Delta \varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sekund

Poprawka interpola-
cyjna dla wyrazu
 Δh

$\varphi = 54^\circ$	(ΔA)	$(\Delta \varphi \Delta h)$	(ΔA^2)	$(\Delta \varphi^2 \Delta h)$	$(\Delta \varphi \Delta A^2)$	$(\Delta \varphi^2 \Delta A^2)$	K' q'	
0'	182 132. 600	-121 25. 356	-46. 698	-145. 178	1. 456	0. 009		
1'	182 089. 840	-121 27. 952	-46. 699	-145. 121	1. 459	0. 009		
2'	181 987. 065	-121 30. 547	-46. 700	-145. 065	1. 462	0. 009		
3'	181 914. 274	-121 33. 140	-46. 701	-145. 008	1. 465	0. 009		
4'	181 841. 467	-121 35. 733	-46. 702	-144. 952	1. 468	0. 009		
5'	181 768. 645	-121 38. 325	-46. 703	-144. 895	1. 471	0. 009		
6'	181 695. 807	-121 40. 916	-46. 704	-144. 838	1. 474	0. 009		
7'	181 622. 954	-121 43. 505	-46. 705	-144. 782	1. 477	0. 009		
8'	181 550. 085	-121 46. 094	-46. 706	-144. 725	1. 480	0. 009		
9'	181 477. 201	-121 48. 682	-46. 707	-144. 669	1. 483	0. 009		
10'	181 404. 301	-121 51. 268	-46. 708	-144. 612	1. 486	0. 009		
11'	181 331. 385	-121 53. 854	-46. 709	-144. 555	1. 489	0. 009		
12'	181 258. 454	-121 56. 439	-46. 710	-144. 499	1. 492	0. 009		
13'	181 185. 508	-121 59. 022	-46. 710	-144. 442	1. 495	0. 010		
14'	181 112. 546	-121 61. 605	-46. 711	-144. 385	1. 498	0. 010		
15'	181 039. 569	-121 64. 186	-46. 712	-144. 328	1. 501	0. 010		
16'	180 966. 576	-121 66. 767	-46. 713	-144. 272	1. 504	0. 010		
17'	180 893. 568	-121 69. 346	-46. 713	-144. 215	1. 507	0. 010		
18'	180 820. 544	-121 71. 925	-46. 714	-144. 158	1. 510	0. 010		
19'	180 747. 505	-121 74. 502	-46. 715	-144. 101	1. 513	0. 010		
20'	180 674. 450	-121 77. 079	-46. 715	-144. 045	1. 516	0. 010		
21'	180 601. 380	-121 79. 654	-46. 716	-143. 988	1. 519	0. 010		
22'	180 528. 294	-121 82. 229	-46. 716	-143. 931	1. 522	0. 010		
23'	180 455. 193	-121 84. 802	-46. 717	-143. 874	1. 525	0. 010		
24'	180 382. 076	-121 87. 374	-46. 718	-143. 817	1. 527	0. 010		
25'	180 308. 944	-121 89. 946	-46. 718	-143. 760	1. 530	0. 010	0. 1	1
26'	180 235. 797	-121 92. 516	-46. 719	-143. 703	1. 533	0. 011	0. 2	1
27'	180 162. 634	-121 95. 085	-46. 719	-143. 647	1. 536	0. 011	0. 3	2
28'	180 089. 456	-121 97. 653	-46. 719	-143. 590	1. 539	0. 011	0. 4	2
29'	180 016. 262	-122 00. 221	-46. 720	-143. 533	1. 542	0. 011	0. 5	2
30'	179 943. 053	-122 02. 787	-46. 720	-143. 476	1. 545	0. 011	0. 6	2
31'	179 869. 829	-122 05. 352	-46. 721	-143. 419	1. 548	0. 011	0. 7	2
32'	179 796. 589	-122 07. 916	-46. 721	-143. 362	1. 551	0. 011	0. 8	1
33'	179 723. 334	-122 10. 479	-46. 721	-143. 305	1. 554	0. 011	0. 9	1
34'	179 650. 063	-122 13. 041	-46. 722	-143. 248	1. 557	0. 011	1. 0	
35'	179 576. 778	-122 15. 602	-46. 722	-143. 191	1. 560	0. 011		
36'	179 503. 476	-122 18. 162	-46. 722	-143. 134	1. 563	0. 011		
37'	179 430. 160	-122 20. 722	-46. 722	-143. 077	1. 566	0. 011		
38'	179 356. 828	-122 23. 280	-46. 723	-143. 020	1. 569	0. 011		
39'	179 283. 480	-122 25. 836	-46. 723	-142. 963	1. 572	0. 012		
40'	179 210. 118	-122 28. 392	-46. 723	-142. 906	1. 575	0. 012		
41'	179 136. 740	-122 30. 947	-46. 723	-142. 849	1. 578	0. 012		
42'	179 063. 346	-122 33. 501	-46. 723	-142. 792	1. 581	0. 012		
43'	178 989. 938	-122 36. 054	-46. 723	-142. 734	1. 584	0. 012		
44'	178 916. 514	-122 38. 606	-46. 723	-142. 677	1. 587	0. 012		
45'	178 843. 074	-122 41. 157	-46. 723	-142. 620	1. 590	0. 012		
46'	178 769. 620	-122 43. 708	-46. 723	-142. 563	1. 593	0. 012		
47'	178 696. 150	-122 46. 255	-46. 723	-142. 506	1. 596	0. 012		
48'	178 622. 665	-122 48. 803	-46. 723	-142. 449	1. 599	0. 012		
49'	178 549. 164	-122 51. 350	-46. 723	-142. 391	1. 602	0. 012		
50'	178 475. 648	-122 53. 895	-46. 723	-142. 334	1. 605	0. 012		
51'	178 402. 117	-122 56. 440	-46. 723	-142. 277	1. 608	0. 012		
52'	178 328. 571	-122 58. 983	-46. 723	-142. 220	1. 611	0. 012		
53'	178 255. 010	-122 61. 526	-46. 723	-142. 163	1. 614	0. 013		
54'	178 181. 433	-122 64. 068	-46. 723	-142. 105	1. 617	0. 013		
55'	178 107. 841	-122 66. 608	-46. 722	-142. 048	1. 620	0. 013		
56'	178 034. 234	-122 69. 147	-46. 722	-141. 991	1. 623	0. 013		
57'	177 960. 611	-122 71. 686	-46. 722	-141. 933	1. 626	0. 013		
58'	177 886. 973	-122 74. 223	-46. 722	-141. 876	1. 629	0. 013		
59'	177 813. 320	-122 76. 760	-46. 721	-141. 819	1. 632	0. 013		
60'	177 739. 652	-122 79. 295	-46. 721	-141. 761	1. 635	0. 013		

Tablica do obliczenia długości linii geodezyjnej przez COSINUS azymutu X

$x_m = (\Delta\varphi - \Delta\alpha) \Delta\lambda^2 + \Delta\varphi^2 \Delta\lambda^2 + \dots$ gdzie $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek. łuku
 $\Delta\alpha$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek. łuku.

$\varphi \pm 55^\circ$	$\Delta\varphi$	$\Delta\alpha^2$	$\Delta\varphi^2$	$\Delta\varphi \Delta\alpha^2$	$\Delta\varphi^3$	$\Delta\varphi^2 \Delta\alpha^2$	$\Delta\alpha^3$
0'	309 196. 132	3529. 342	70. 830	- 203. 891	- 0. 799	- 5. 413	- 0. 245
1'	309 196. 981	3528. 597	70. 815	- 204. 024	- 0. 800	- 5. 412	- 0. 245
2'	309 197. 831	3527. 851	70. 800	- 204. 157	- 0. 802	- 5. 411	- 0. 245
3'	309 198. 681	3527. 104	70. 785	- 204. 290	- 0. 803	- 5. 410	- 0. 246
4'	309 199. 530	3526. 356	70. 771	- 204. 423	- 0. 804	- 5. 409	- 0. 246
5'	309 200. 379	3525. 606	70. 758	- 204. 556	- 0. 806	- 5. 408	- 0. 246
6'	309 201. 228	3524. 856	70. 744	- 204. 689	- 0. 807	- 5. 406	- 0. 247
7'	309 202. 077	3524. 104	70. 726	- 204. 822	- 0. 808	- 5. 405	- 0. 247
8'	309 202. 926	3523. 351	70. 711	- 204. 955	- 0. 810	- 5. 404	- 0. 247
9'	309 203. 774	3522. 597	70. 697	- 205. 088	- 0. 811	- 5. 403	- 0. 247
10'	309 204. 622	3521. 841	70. 682	- 205. 221	- 0. 812	- 5. 402	- 0. 248
11'	309 205. 470	3521. 084	70. 667	- 205. 354	- 0. 814	- 5. 401	- 0. 248
12'	309 206. 318	3520. 327	70. 652	- 205. 486	- 0. 815	- 5. 400	- 0. 248
13'	309 207. 166	3519. 568	70. 637	- 205. 619	- 0. 816	- 5. 398	- 0. 249
14'	309 208. 014	3518. 807	70. 622	- 205. 752	- 0. 818	- 5. 397	- 0. 249
15'	309 208. 861	3518. 046	70. 607	- 205. 885	- 0. 819	- 5. 396	- 0. 249
16'	309 209. 708	3517. 283	70. 592	- 206. 017	- 0. 820	- 5. 395	- 0. 250
17'	309 210. 555	3516. 519	70. 577	- 206. 150	- 0. 822	- 5. 394	- 0. 250
18'	309 211. 403	3515. 754	70. 562	- 206. 283	- 0. 823	- 5. 393	- 0. 250
19'	309 212. 249	3514. 988	70. 547	- 206. 415	- 0. 824	- 5. 392	- 0. 251
20'	309 213. 095	3514. 221	70. 531	- 206. 548	- 0. 826	- 5. 390	- 0. 251
21'	309 213. 941	3513. 452	70. 516	- 206. 681	- 0. 827	- 5. 389	- 0. 251
22'	309 214. 787	3512. 683	70. 501	- 206. 813	- 0. 828	- 5. 388	- 0. 252
23'	309 215. 633	3511. 912	70. 486	- 206. 945	- 0. 830	- 5. 387	- 0. 252
24'	309 216. 479	3511. 139	70. 471	- 207. 078	- 0. 831	- 5. 386	- 0. 252
25'	309 217. 325	3510. 366	70. 455	- 207. 211	- 0. 832	- 5. 385	- 0. 253
26'	309 218. 170	3509. 592	70. 440	- 207. 343	- 0. 834	- 5. 384	- 0. 253
27'	309 219. 015	3508. 816	70. 425	- 207. 475	- 0. 835	- 5. 382	- 0. 253
28'	309 219. 860	3508. 039	70. 409	- 207. 608	- 0. 837	- 5. 381	- 0. 254
29'	309 220. 705	3507. 261	70. 394	- 207. 740	- 0. 838	- 5. 380	- 0. 254
30'	309 221. 550	3506. 482	70. 379	- 207. 872	- 0. 839	- 5. 379	- 0. 254
31'	309 222. 394	3505. 701	70. 363	- 208. 005	- 0. 841	- 5. 378	- 0. 255
32'	309 223. 238	3504. 919	70. 348	- 208. 137	- 0. 842	- 5. 377	- 0. 255
33'	309 224. 083	3504. 137	70. 332	- 208. 269	- 0. 843	- 5. 376	- 0. 255
34'	309 224. 926	3503. 352	70. 317	- 208. 401	- 0. 845	- 5. 374	- 0. 255
35'	309 225. 770	3502. 567	70. 301	- 208. 534	- 0. 846	- 5. 373	- 0. 256
36'	309 226. 614	3501. 781	70. 286	- 208. 666	- 0. 847	- 5. 372	- 0. 256
37'	309 227. 457	3500. 993	70. 270	- 208. 798	- 0. 849	- 5. 371	- 0. 256
38'	309 228. 300	3500. 204	70. 255	- 208. 930	- 0. 850	- 5. 369	- 0. 257
39'	309 229. 143	3499. 414	70. 239	- 209. 062	- 0. 851	- 5. 368	- 0. 257
40'	309 229. 986	3498. 623	70. 224	- 209. 194	- 0. 853	- 5. 367	- 0. 257
41'	309 230. 829	3497. 831	70. 208	- 209. 326	- 0. 854	- 5. 366	- 0. 258
42'	309 231. 671	3497. 037	70. 192	- 209. 458	- 0. 855	- 5. 365	- 0. 258
43'	309 232. 513	3496. 243	70. 177	- 209. 590	- 0. 857	- 5. 364	- 0. 258
44'	309 233. 355	3495. 447	70. 161	- 209. 722	- 0. 858	- 5. 362	- 0. 259
45'	309 234. 197	3494. 650	70. 145	- 209. 854	- 0. 859	- 5. 361	- 0. 259
46'	309 235. 039	3493. 851	70. 129	- 209. 985	- 0. 861	- 5. 360	- 0. 259
47'	309 235. 880	3493. 052	70. 114	- 210. 117	- 0. 862	- 5. 359	- 0. 259
48'	309 236. 721	3492. 251	70. 098	- 210. 249	- 0. 863	- 5. 358	- 0. 260
49'	309 237. 562	3491. 449	70. 082	- 210. 381	- 0. 865	- 5. 356	- 0. 260
50'	309 238. 403	3490. 646	70. 066	- 210. 512	- 0. 866	- 5. 355	- 0. 260
51'	309 239. 244	3489. 842	70. 050	- 210. 644	- 0. 867	- 5. 354	- 0. 261
52'	309 240. 085	3489. 037	70. 034	- 210. 776	- 0. 869	- 5. 353	- 0. 261
53'	309 240. 925	3488. 230	70. 018	- 210. 907	- 0. 870	- 5. 351	- 0. 261
54'	309 241. 765	3487. 422	70. 002	- 211. 039	- 0. 871	- 5. 350	- 0. 262
55'	309 242. 605	3486. 613	69. 986	- 211. 171	- 0. 873	- 5. 349	- 0. 262
56'	309 243. 445	3485. 803	69. 970	- 211. 302	- 0. 874	- 5. 348	- 0. 262
57'	309 244. 284	3484. 992	69. 954	- 211. 434	- 0. 875	- 5. 347	- 0. 263
58'	309 245. 123	3484. 180	69. 938	- 211. 565	- 0. 877	- 5. 345	- 0. 263
59'	309 245. 963	3483. 366	69. 922	- 211. 697	- 0. 878	- 5. 344	- 0. 263
60'	309 246. 802	3482. 551	69. 906	- 211. 828	- 0. 879	- 5. 343	- 0. 264

Tłoczyn długości linii geodezyjnej przez SINUS azymutu Y

$y_m = (\Delta\lambda) \sin \lambda + (\Delta\varphi \sin \lambda) \cos \lambda + (\Delta\lambda^2) \sin \lambda \cos \lambda + \dots$ gdzie $\Delta\varphi$ przyrost szerokości geogr. wyrażony w dziesiątkach tysięcy sek łuku, $\Delta\lambda$ przyrost długości geogr. wyrażony w dziesiątkach tysięcy sek łuku.

Poprawka interpo-
lacyjna do wyrazu
 $\Delta\lambda$.

$\varphi 55^\circ$	$(\Delta\lambda)$	$(\Delta\varphi \sin \lambda)$	$(\Delta\lambda^2)$	$(\Delta\varphi^2 \sin \lambda)$	$(\Delta\varphi \Delta\lambda^2)$	$(\Delta\varphi^2 \Delta\lambda)$		
0'	177 739.652	-12 273.295	-46.721	-141.761	1.635	0.013	K:	Q:
1'	177 665.969	-12 281.620	-46.721	-141.704	1.638	0.013		
2'	177 592.270	-12 284.363	-46.720	-141.647	1.641	0.013		
3'	177 518.557	-12 286.895	-46.720	-141.589	1.644	0.013		
4'	177 444.828	-12 289.426	-46.720	-141.532	1.647	0.013		
5'	177 371.083	-12 291.956	-46.719	-141.474	1.650	0.014		
6'	177 297.324	-12 294.485	-46.719	-141.417	1.653	0.014		
7'	177 223.550	-12 297.013	-46.718	-141.360	1.656	0.014		
8'	177 149.760	-12 299.540	-46.718	-141.302	1.659	0.014		
9'	177 075.955	-12 302.067	-46.717	-141.245	1.662	0.014		
10'	177 002.135	-12 304.592	-46.716	-141.187	1.665	0.014		
11'	176 928.300	-12 307.115	-46.716	-141.130	1.668	0.014		
12'	176 854.450	-12 309.638	-46.715	-141.072	1.671	0.014		
13'	176 780.584	-12 312.160	-46.715	-141.015	1.674	0.014		
14'	176 706.704	-12 314.681	-46.714	-140.957	1.677	0.014		
15'	176 632.808	-12 317.201	-46.713	-140.900	1.680	0.014		
16'	176 558.898	-12 319.720	-46.713	-140.842	1.683	0.014		
17'	176 484.972	-12 322.238	-46.712	-140.784	1.686	0.014		
18'	176 411.031	-12 324.754	-46.711	-140.727	1.688	0.014		
19'	176 337.075	-12 327.270	-46.710	-140.669	1.691	0.015		
20'	176 263.103	-12 329.785	-46.710	-140.612	1.694	0.015		
21'	176 189.117	-12 332.298	-46.709	-140.554	1.697	0.015		+0.001
22'	176 115.116	-12 334.811	-46.708	-140.496	1.700	0.015		
23'	176 041.099	-12 337.322	-46.707	-140.439	1.703	0.015		
24'	175 967.068	-12 339.833	-46.706	-140.381	1.706	0.015		
25'	175 893.021	-12 342.342	-46.705	-140.323	1.709	0.015	0.1	1
26'	175 818.960	-12 344.851	-46.704	-140.266	1.712	0.015	0.2	1
27'	175 744.883	-12 347.358	-46.703	-140.208	1.715	0.015	0.3	2
28'	175 670.791	-12 349.865	-46.702	-140.150	1.718	0.015	0.4	2
29'	175 596.685	-12 352.370	-46.701	-140.093	1.721	0.015	0.5	2
30'	175 522.563	-12 354.874	-46.700	-140.035	1.724	0.015	0.6	2
31'	175 448.426	-12 357.377	-46.699	-139.977	1.727	0.015	0.7	2
32'	175 374.274	-12 359.880	-46.698	-139.919	1.730	0.016	0.8	1
33'	175 300.108	-12 362.381	-46.697	-139.861	1.733	0.016	0.9	1
34'	175 225.926	-12 364.881	-46.695	-139.804	1.736	0.016	1.0	
35'	175 151.729	-12 367.380	-46.694	-139.746	1.739	0.016		
36'	175 077.517	-12 369.878	-46.693	-139.688	1.742	0.016		
37'	175 003.291	-12 372.375	-46.692	-139.630	1.745	0.016		
38'	174 929.049	-12 374.871	-46.691	-139.572	1.748	0.016		
39'	174 854.792	-12 377.366	-46.690	-139.514	1.751	0.016		
40'	174 780.520	-12 379.860	-46.689	-139.457	1.754	0.016		
41'	174 706.234	-12 382.353	-46.688	-139.399	1.757	0.016		
42'	174 631.932	-12 384.844	-46.687	-139.341	1.760	0.016		
43'	174 557.616	-12 387.335	-46.685	-139.283	1.763	0.016		
44'	174 483.284	-12 389.825	-46.683	-139.225	1.766	0.016		
45'	174 408.938	-12 392.313	-46.682	-139.167	1.769	0.016		
46'	174 334.576	-12 394.801	-46.680	-139.109	1.772	0.017		
47'	174 260.200	-12 397.288	-46.679	-139.051	1.775	0.017		
48'	174 185.809	-12 399.773	-46.677	-138.993	1.778	0.017		
49'	174 111.403	-12 402.258	-46.676	-138.935	1.781	0.017		
50'	174 036.982	-12 404.741	-46.674	-138.877	1.784	0.017		
51'	173 962.546	-12 407.224	-46.673	-138.819	1.787	0.017		
52'	173 888.095	-12 409.705	-46.671	-138.761	1.790	0.017		
53'	173 813.630	-12 412.185	-46.670	-138.703	1.793	0.017		
54'	173 739.149	-12 414.664	-46.668	-138.645	1.796	0.017		
55'	173 664.654	-12 417.143	-46.666	-138.587	1.799	0.017		
56'	173 590.143	-12 419.620	-46.665	-138.529	1.802	0.017		
57'	173 515.618	-12 422.096	-46.663	-138.470	1.805	0.017		
58'	173 441.078	-12 424.571	-46.661	-138.412	1.808	0.017		
59'	173 366.523	-12 427.045	-46.660	-138.354	1.811	0.018		
60'	173 291.954	-12 429.518	-46.658	-138.296	1.814	0.018		



