

D855.4

Results for the European Stations in the GSFC SL7.1 Global Solutions

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GSFC SLR Analysis Group

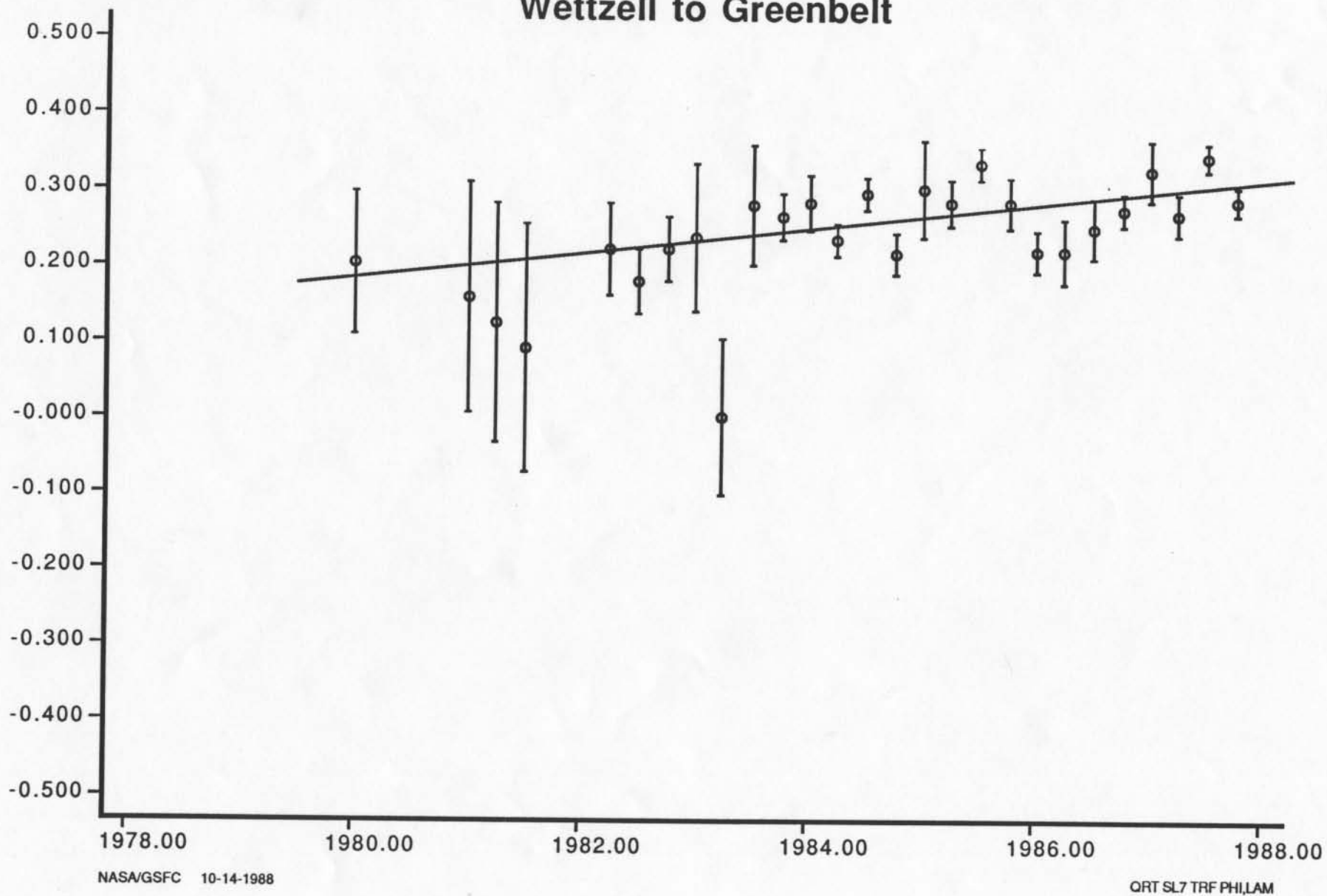
Presented at the 15th Crustal Dynamics Principal Investigator's Meeting
Munich, FRG
October 18-20, 1988

European Results in the GSFC SL7.1 Solution

- Intercontinental Geodesic Rates (1979 to 1987)
- Inter-European Geodesic Rates (1983 to 1987)
- Geodesics Between Wegener and Fixed Sites (1985 to 1987)
- Baselines Between Wegener Transportable Lasers (1986 and 1987)

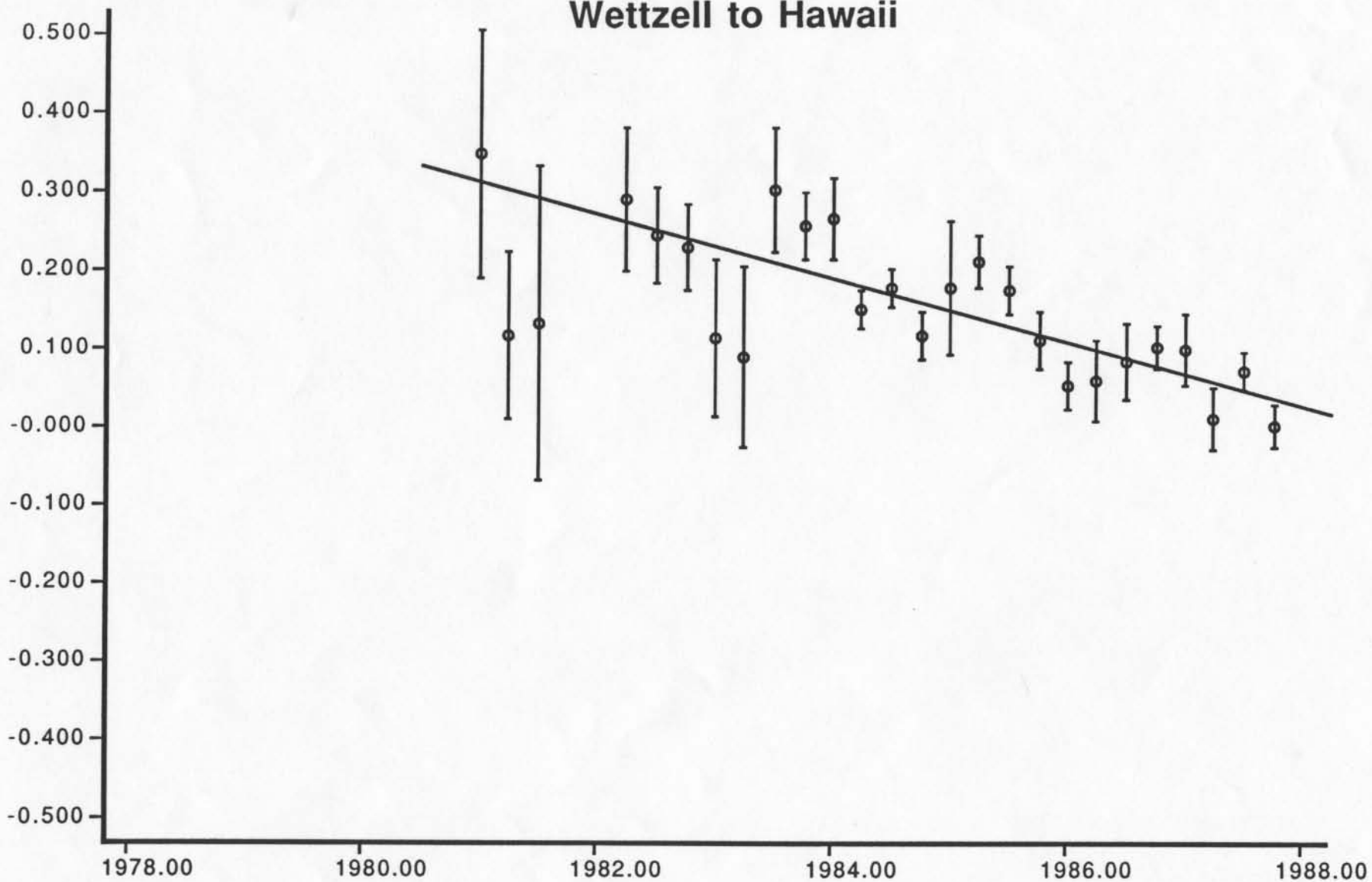
SLOPE = 15.9 ± 4.9 mm/yr
Sigma bars: 99% confid. int.

Wetzell to Greenbelt



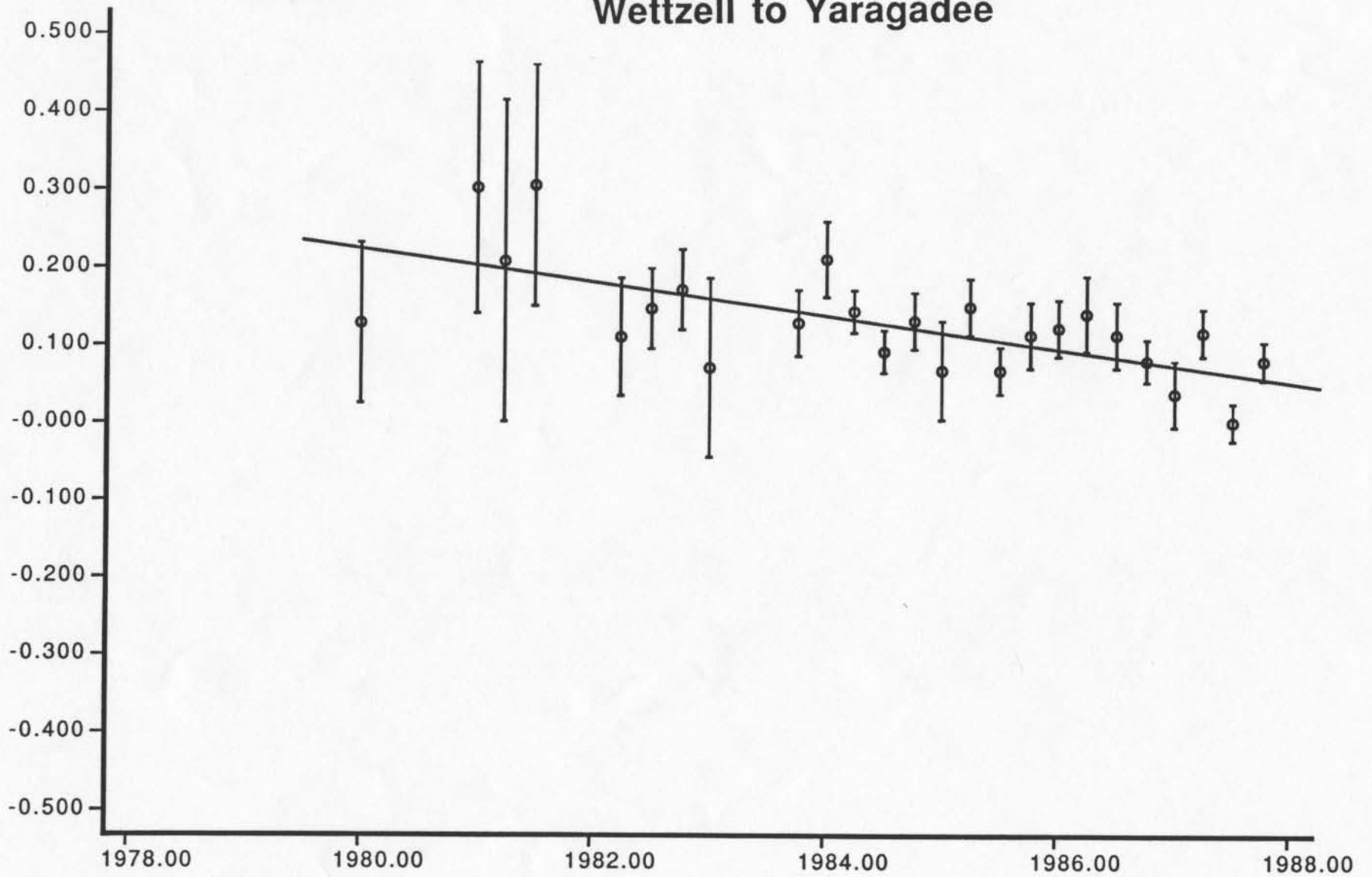
SLOPE = -40.8 ± 5.9 mm/yr
Sigma bars: 99% confid. int.

Wettzell to Hawaii

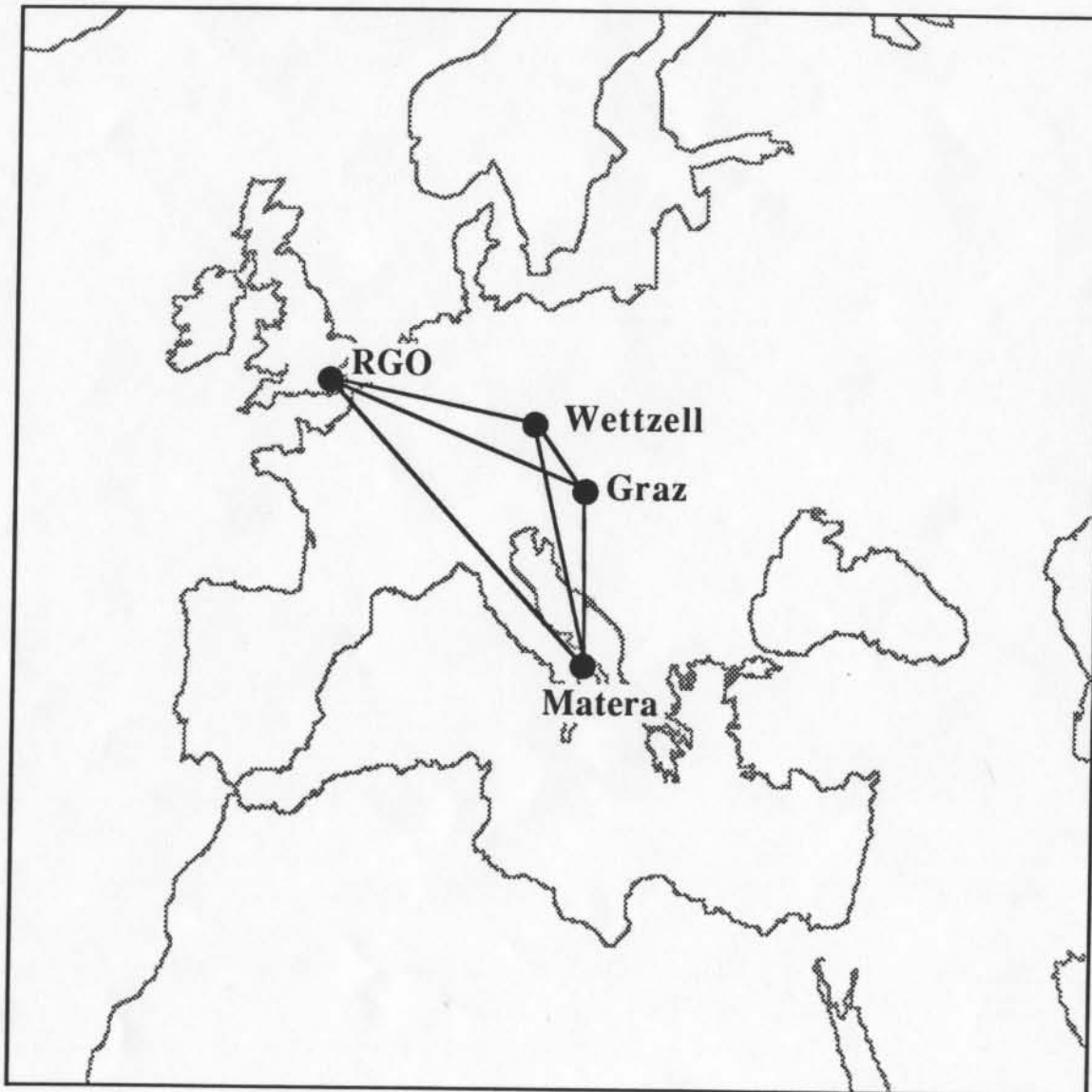


SLOPE = -21.7 ± 5.2 mm/yr
Sigma bars: 99% confid. int.

Wetzell to Yaragadee



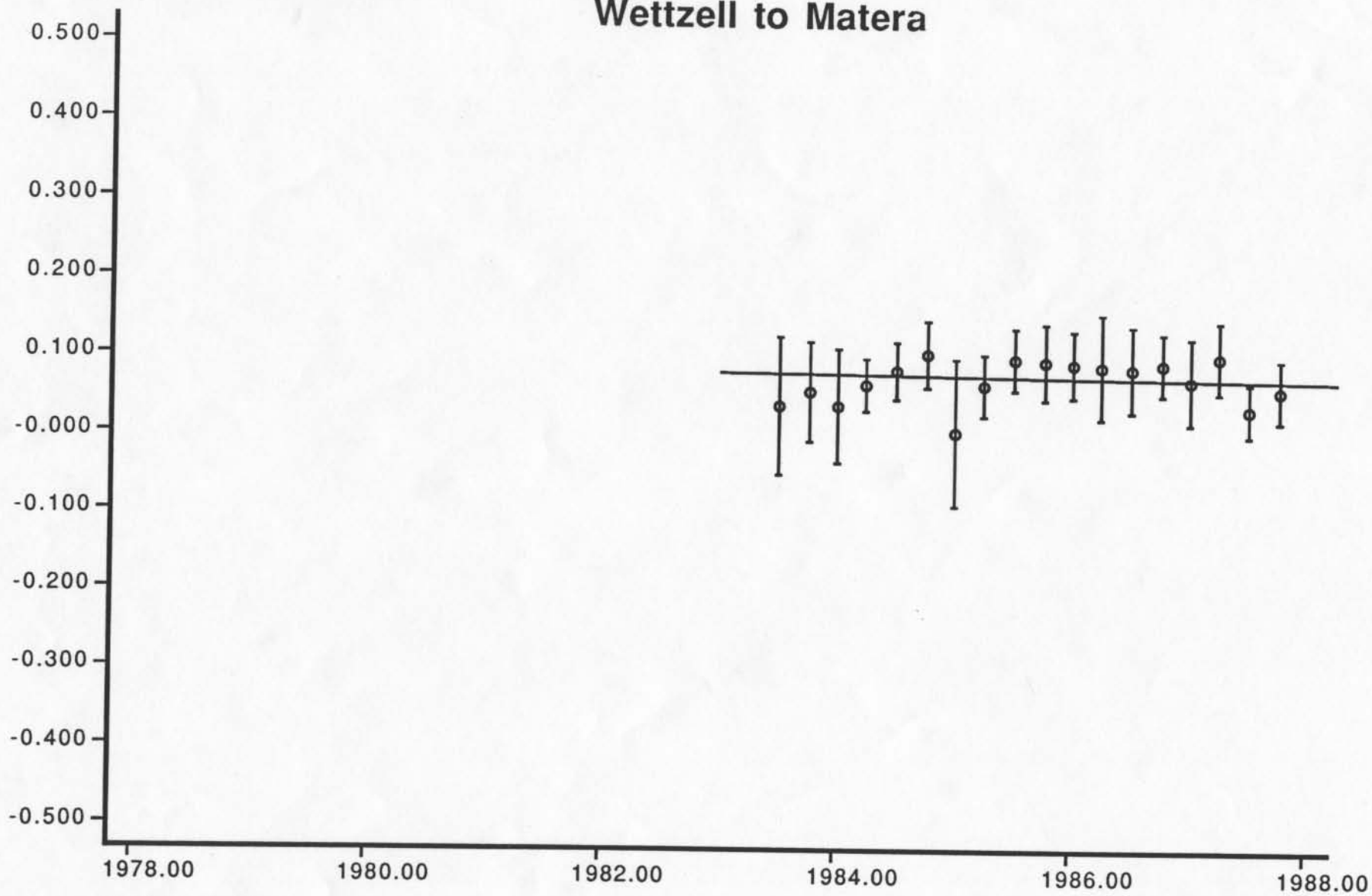
European Fixed SLR Tracking Sites



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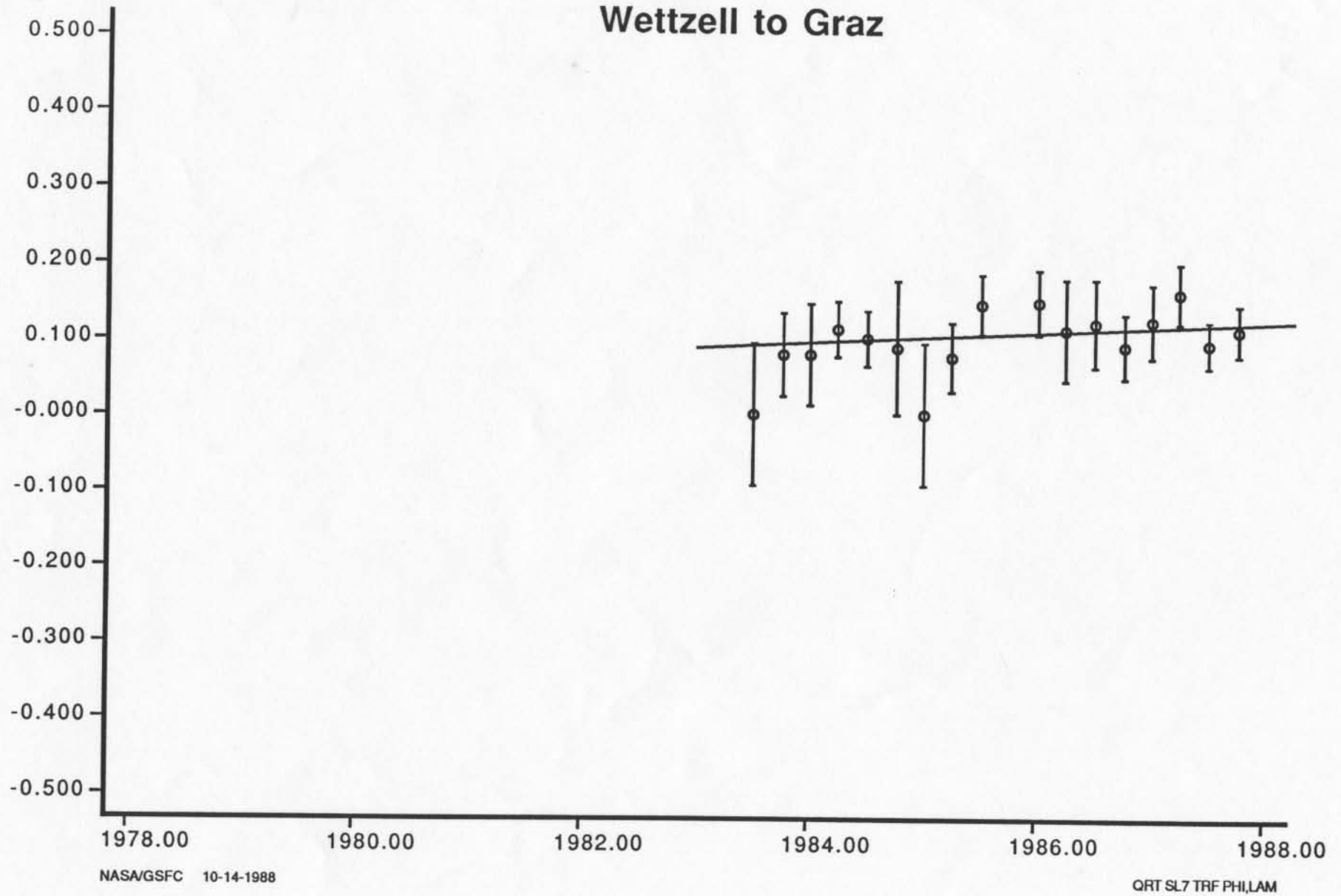
SLOPE = -1.5 ± 4.6 mm/yr
Sigma bars: 99% confid. int.

Wetzell to Matera



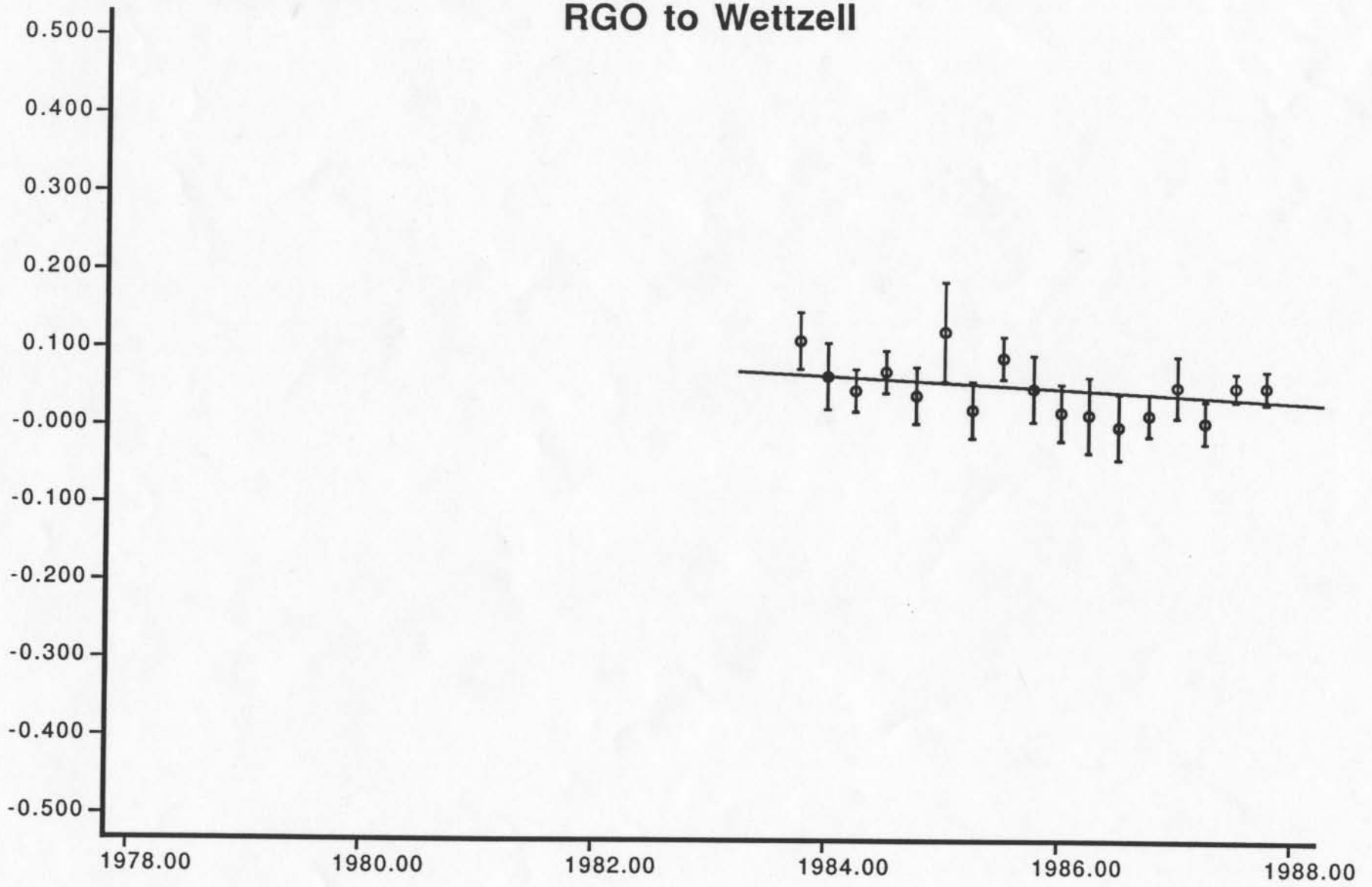
SLOPE = 7.0 ± 5.5 mm/yr
Sigma bars: 99% confid. int.

Wetzell to Graz



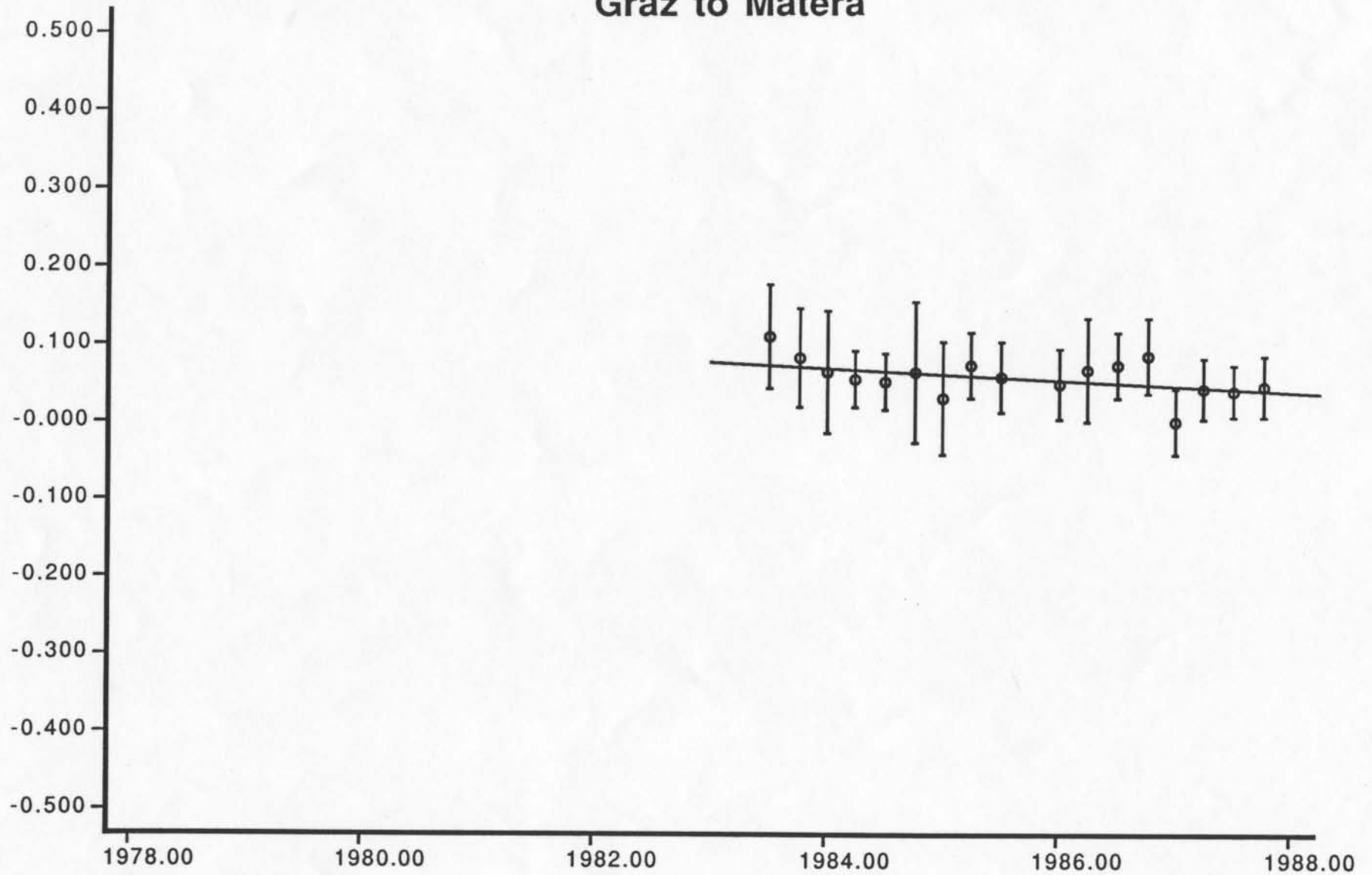
SLOPE = -8.3 ± 4.9 mm/yr
Sigma bars: 99% confid. int

RGO to Wettzell



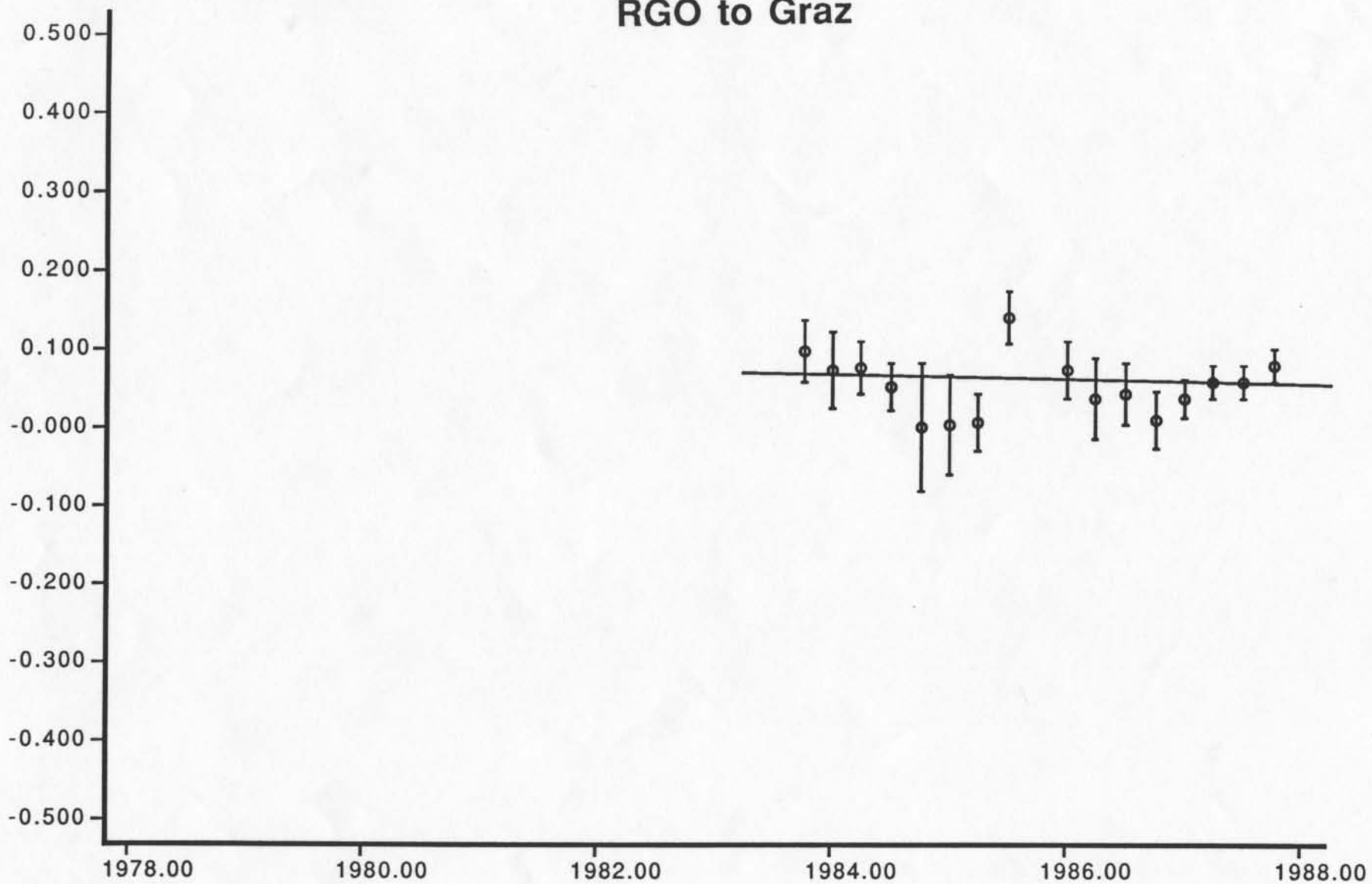
SLOPE = -7.5 ± 3.9 mm/yr
Sigma bars: 99% confid. int.

Graz to Matera



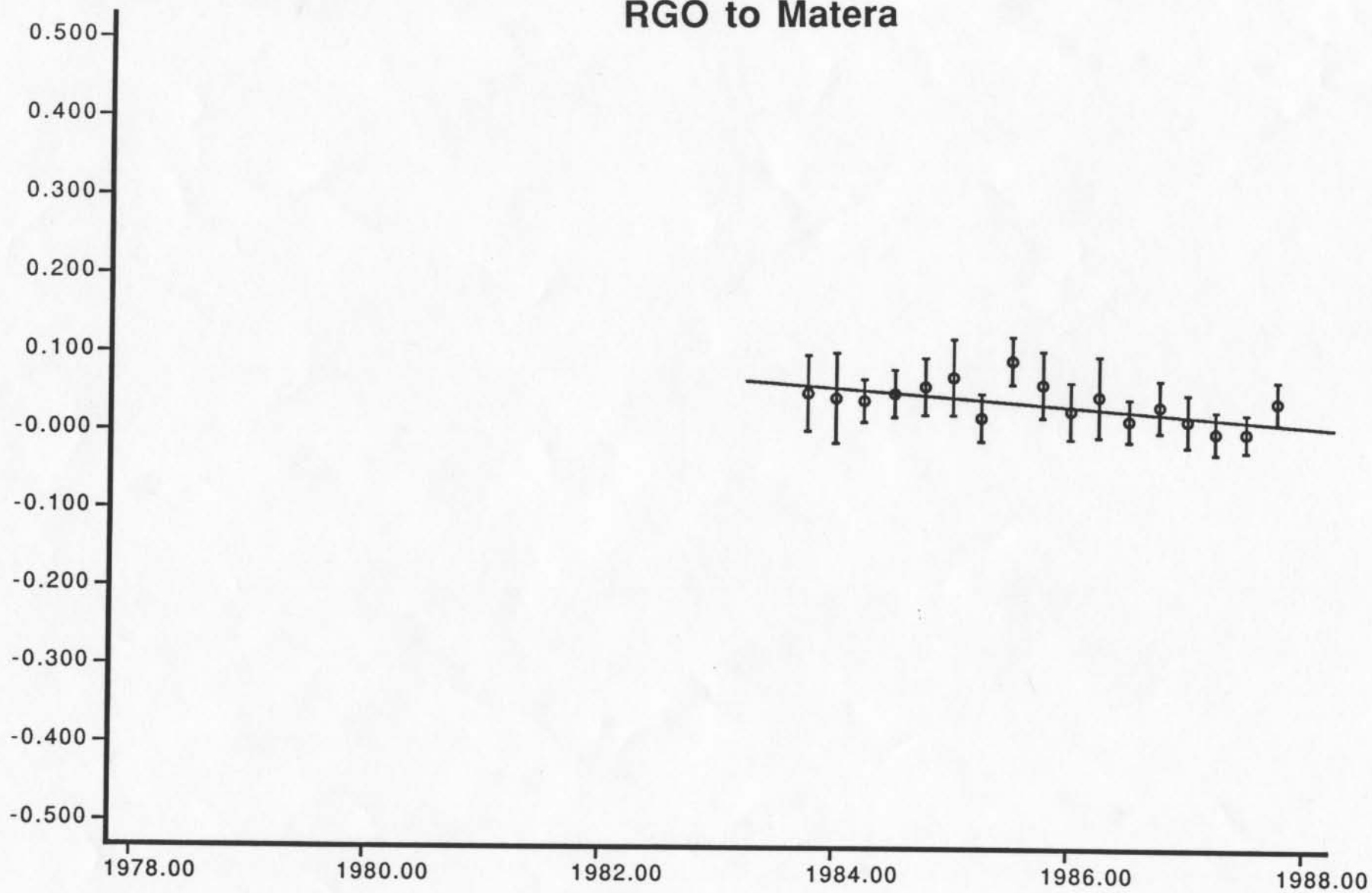
SLOPE = -3.0 ± 6.3 mm/yr
Sigma bars: 99% confid. int.

RGO to Graz



SLOPE = -11.5 ± 4.3 mm/yr
Sigma bars: 99% confid. int.

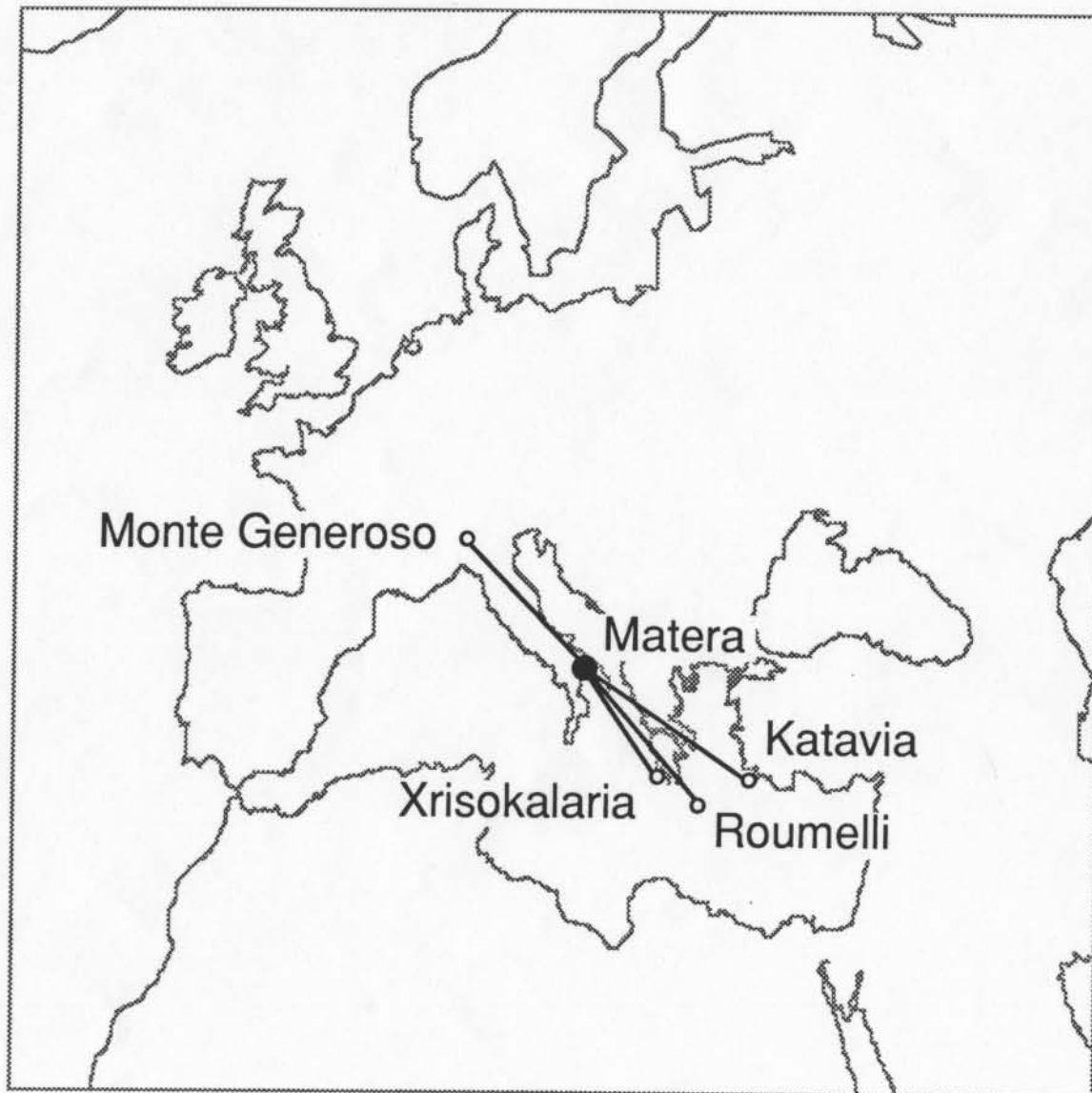
RGO to Matera



Geodesic Rates

From	To	SLR Rate	AMo-2 Rate
Wettzell	Greenbelt	16 ± 5 mm/yr	21 mm/yr
	Hawaii	-41 ± 6	-41
	Yaragadee	-22 ± 5	-26
Wettzell	Matera	-2 ± 5 mm/yr	
	Graz	7 ± 6	
	RGO	-8 ± 5	
Matera	Graz	-8 ± 4	
	RGO	-3 ± 6	
Graz	RGO	-12 ± 4	

Wegener Sites Relative to Matera

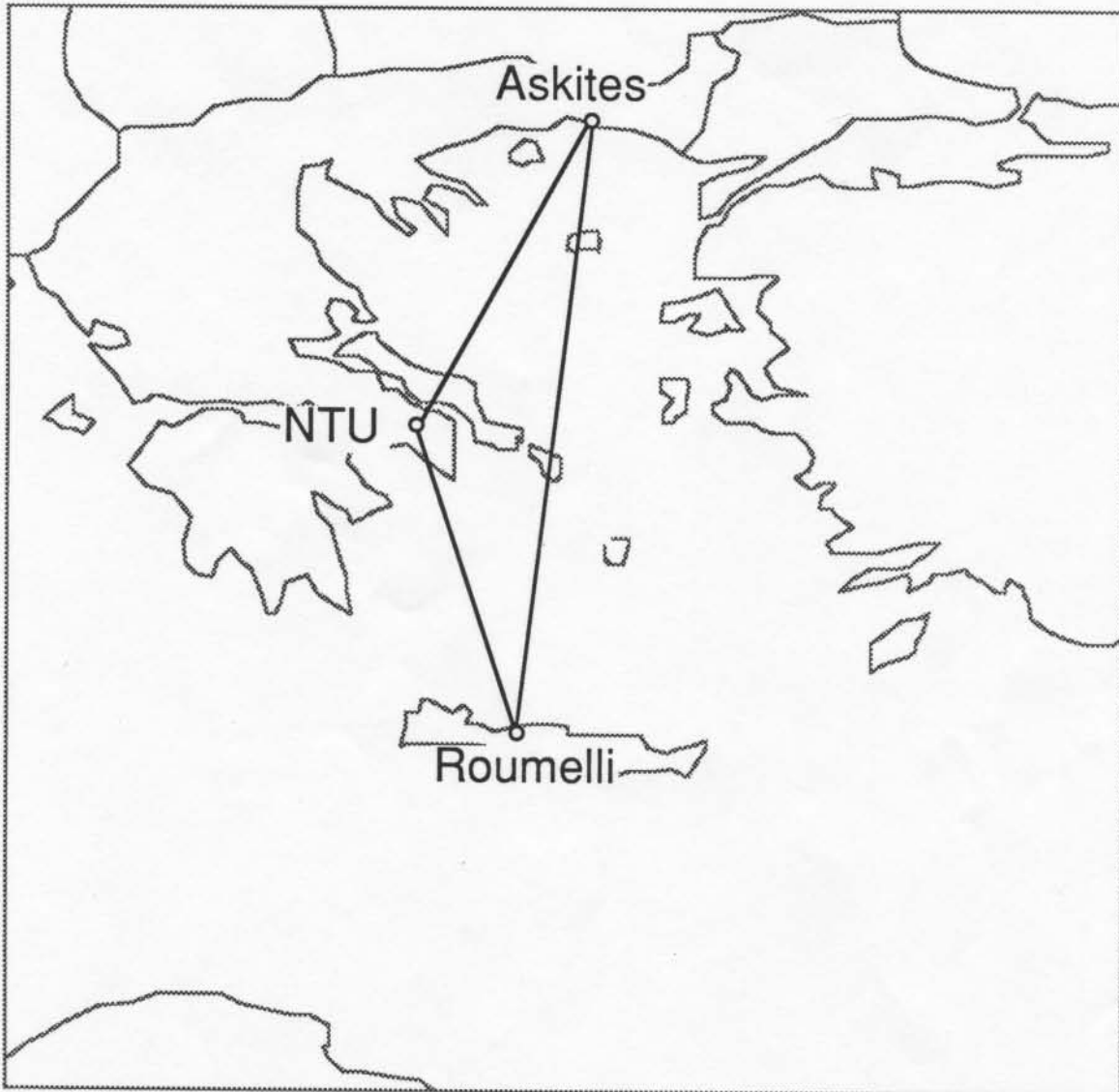


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Geodesic Distances Between Matera and Some Wegener Sites

From	To	Distance	Year-Quarter	
Matera	Katavia	1,099,059, 027 ± 39 mm	86-4	
		1,099,059, 041 ± 26	87-1	
		1,099,059, 012 ± 10	87-2	
				range: 29mm
	Roumelli	910,867, 866 ± 26	86-2	
		910,867, 827 ± 40	86-3	
		910,867, 856 ± 28	87-3	
		910,867, 874 ± 35	87-4	
				range: 47mm
	Xrisokal.	620,862, 435 ± 53	86-3	
620,862, 477 ± 30		87-4		
			range: 42mm	
Mt. Gener.	855,484, 311 ± 12	85-3		
	855,484, 358 ± 13	85-4		
			range: 47mm	

Baseline Estimation from Simultaneous Tracking



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BEST: Roumelli to NTU

Date	Arc Length	Simult. Passes	Simult. Points	Range Fit	Baseline
86-8-4	16days	7	63	55mm	304,459, 598 \pm 32mm
86-8-19	10	6	70	55	304,459, 500 \pm 23*
86-8-28	4	6	64	41	304,459, 591 \pm 19
87-7-27	5	6	62	51	304,459, 578 \pm 21
87-7-31	6	4	34	65	304,459, 563 \pm 36
87-9-9	18	5	36	92	304,459, 588 \pm 53 Range: 35 mm

BEST: Askites to Roumelli

Date	Arc Length	Simult. Passes	Simult. Points	Range Fit	Baseline
86-6-1	29days	4	62	123mm	617,642, 808 \pm 46 mm
86-6-29	24	4	19	99	617,642, 866 \pm 179
87-7-19	5	6	62	63	617,642, 821 \pm 25
87-7-23	8	6	39	106	617,642, 806 \pm 52
87-8-4	3	4	38	75	617,642, 823 \pm 39
87-8-14	13	5	43	101	617,642, 843 \pm 44 Range: 35 mm

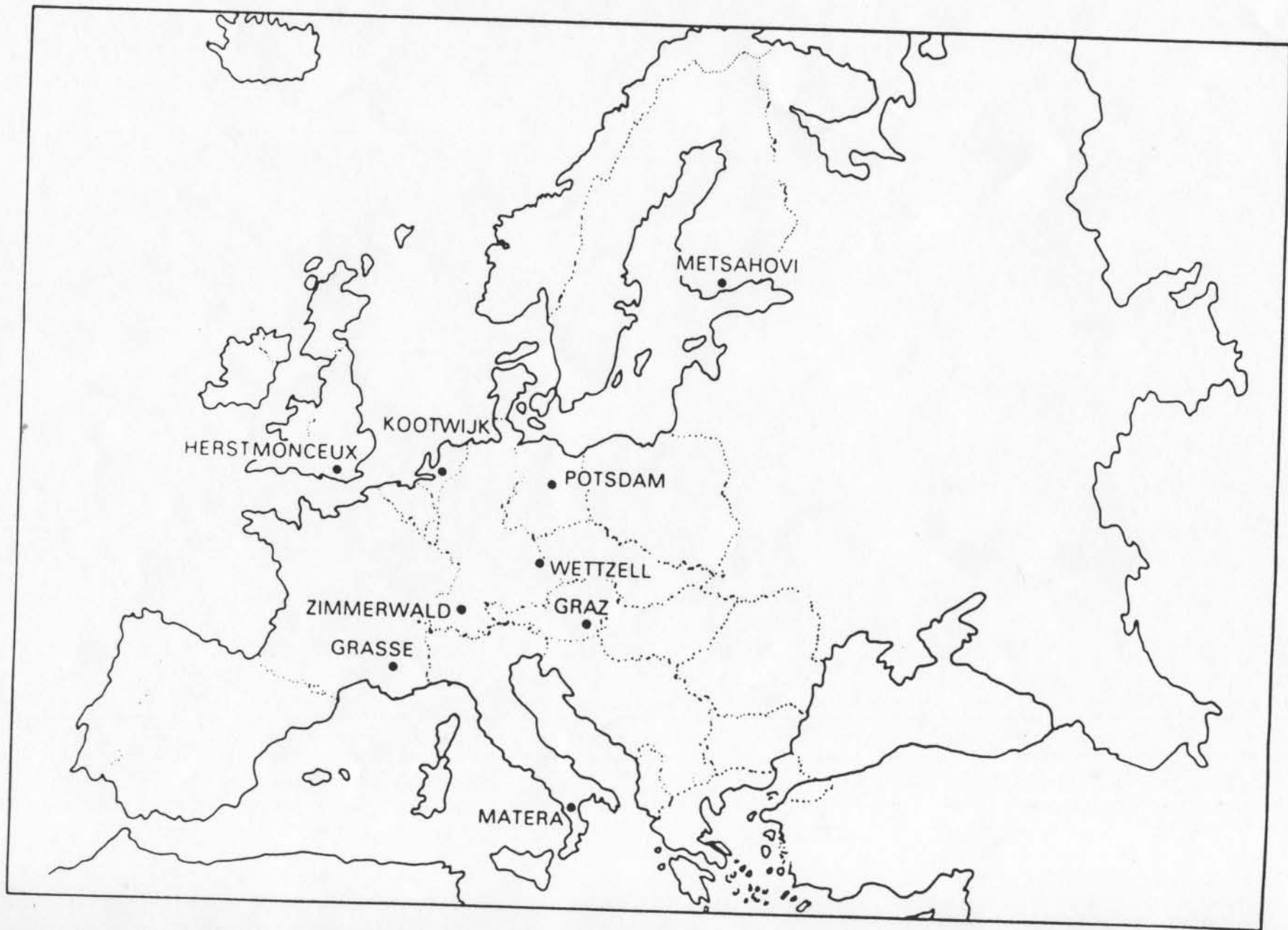
BEST: Askites to NTU

Date	Arc Length	Simult. Passes	Simult. Points	Range Fit	Baseline
87-7-31	6 days	6	45	56mm	346,119, 099 \pm 26 mm
87-7-27	3	4	35	48	346,119, 089 \pm 41
87-8-4	4	5	57	73	346,119, 122 \pm 29
87-8-9	10	6	47	55	346,119, 131 \pm 46
87-8-23	6	7	82	56	346,119, 125 \pm 22 Range: 42 mm

European Results in the GSFC SL7.1 Solution

- Intercontinental Geodesic Rates (1979 to 1987) 5-6 mm/yr
- Inter-European Geodesic Rates (1983 to 1987) 4-6 mm/yr
- Geodesics Between Wegener and Fixed Sites (1985 to 1987) 30-50 mm
- Baselines Between Wegener Transportable Lasers (1986 and 1987) 30-40 mm

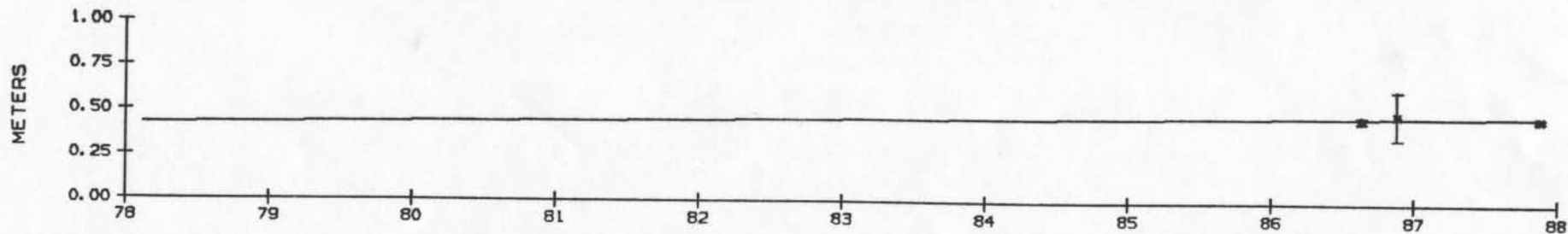
EUROPEAN LASER SITES



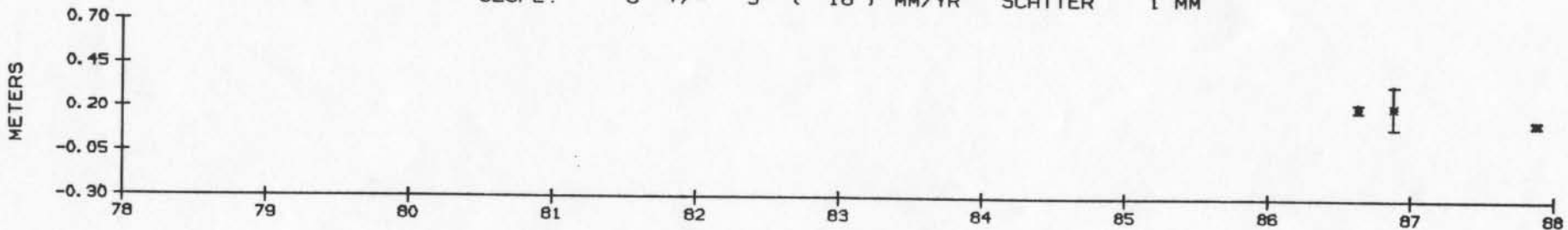


XRISOKAL 7525. TO MATERA 7939.

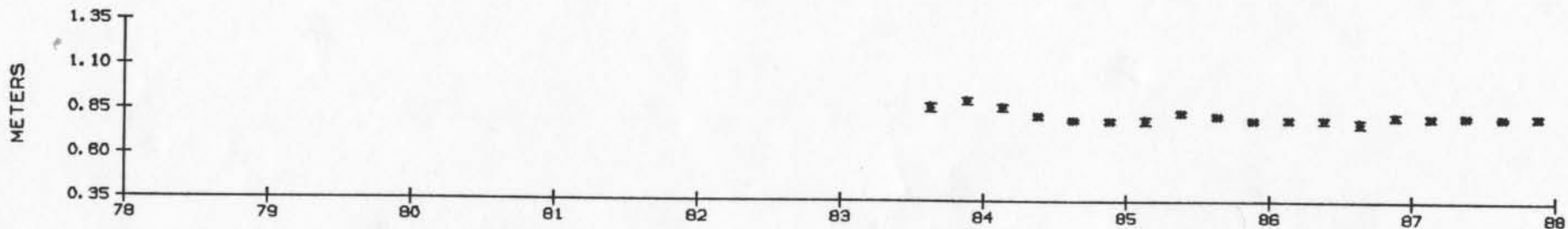
ALL PLOT UNITS ARE METERS



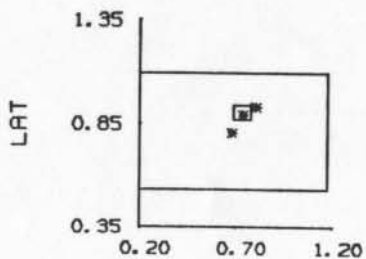
GEODESIC CHORD 620862 + M AM0-2 RATE: 0 MM/YR
 SLOPE: 6 +/- 3 (16) MM/YR SCATTER 1 MM



XRISOKAL HEIGHT 476 + M WT MEAN 476.175 +/- .027 (.004) M

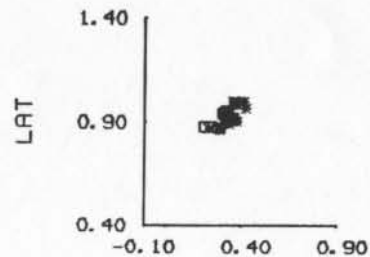


MATERA HEIGHT 535 + M WT MEAN 535.836 +/- .005 (.001) M



LON
XRISOKAL

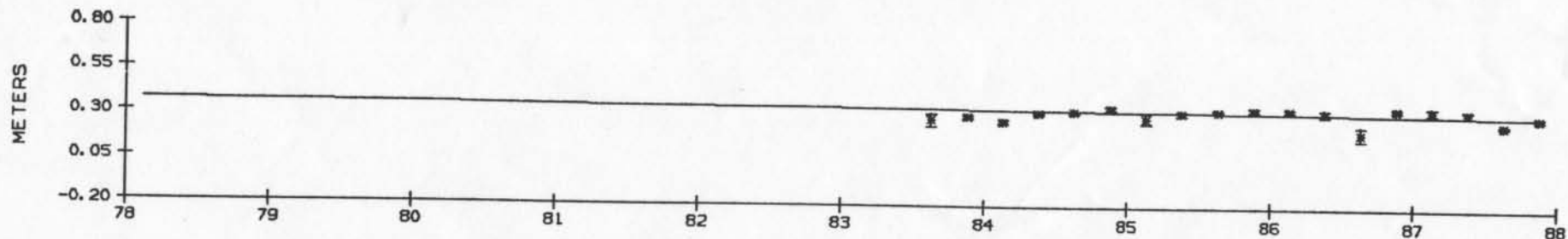
LAT AND LON
METERS



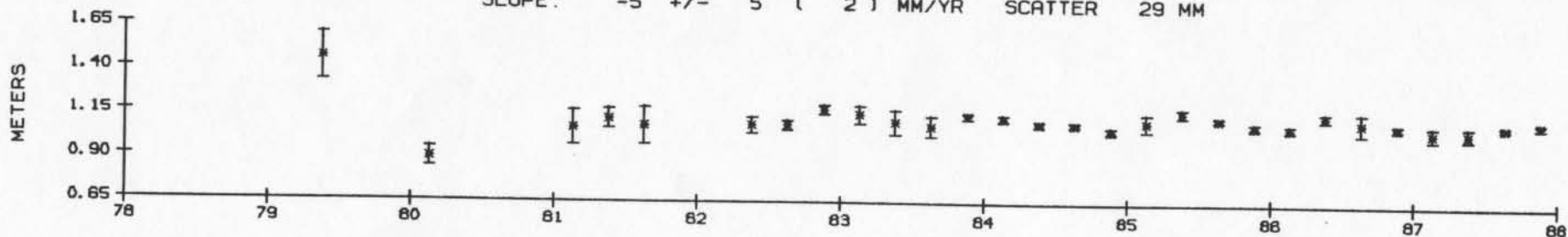
LON
MATERA

WETTZELL 7834. TO MATERA 7939.

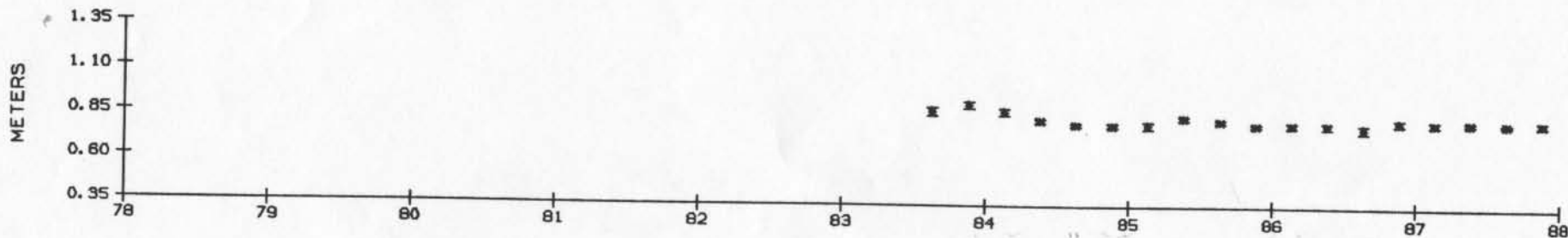
ALL PLOT UNITS ARE METERS



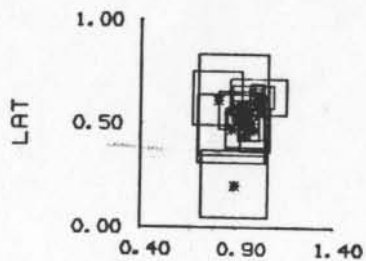
GEODESIC CHORD 991025 + M AM0-2 RATE: 0 MM/YR
 SLOPE: -5 +/- 5 (2) MM/YR SCATTER 29 MM



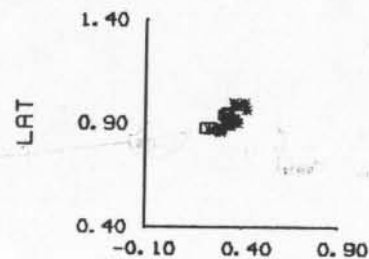
WETTZELL HEIGHT 660 + M WT MEAN 661.116 +/- .006 (.001) M



MATERA HEIGHT 535 + M WT MEAN 535.836 +/- .005 (.001) M



LON WETTZELL



LON MATERA