



Title : Pointing err estimation

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Keywords: Pointing err, C4 pointing

ABSTRACT

The pointing error estimation for the GMRT dish C4 is done from 1st Sept to 4th Sept 1994. The feed at focus is for 610 MHz. Before this exercise, the feed position was checked by Shri. G. Shankar via theodolite.

Expt. done by : V.K.Kulkarni, A.B. Adoni, Pradeep G., R.P. Sinha

The conditions: Feed 610 Mhz, 130 Mhz Polrization channel used.
I.F. detector near baseband rack & chart recorder
Various azimuth & elevation for Virgo A & Cygnus A.

For virgo :I.F. -> 16 MHz 4 dB attn. CEB attn 4dB

For cygnus:I.F. -> 16 MHz 8 dB attn. CEB attn 4dB

Assured : Unix time = GPS time. I.F. ALC OFF.

Always Unix time - Servo time = +2 to 5 seconds by
setting servo time regularly.

Detector or anywhere system doesn't saturates.

**** The scan over sources done above the off source noise. Offset was calculated when got equal drop/deflection from peak and above the far off source level(sky).

Result : Azimuth offset $-20' \pm 5'$ & Elevation offset $-15' \pm 5'$

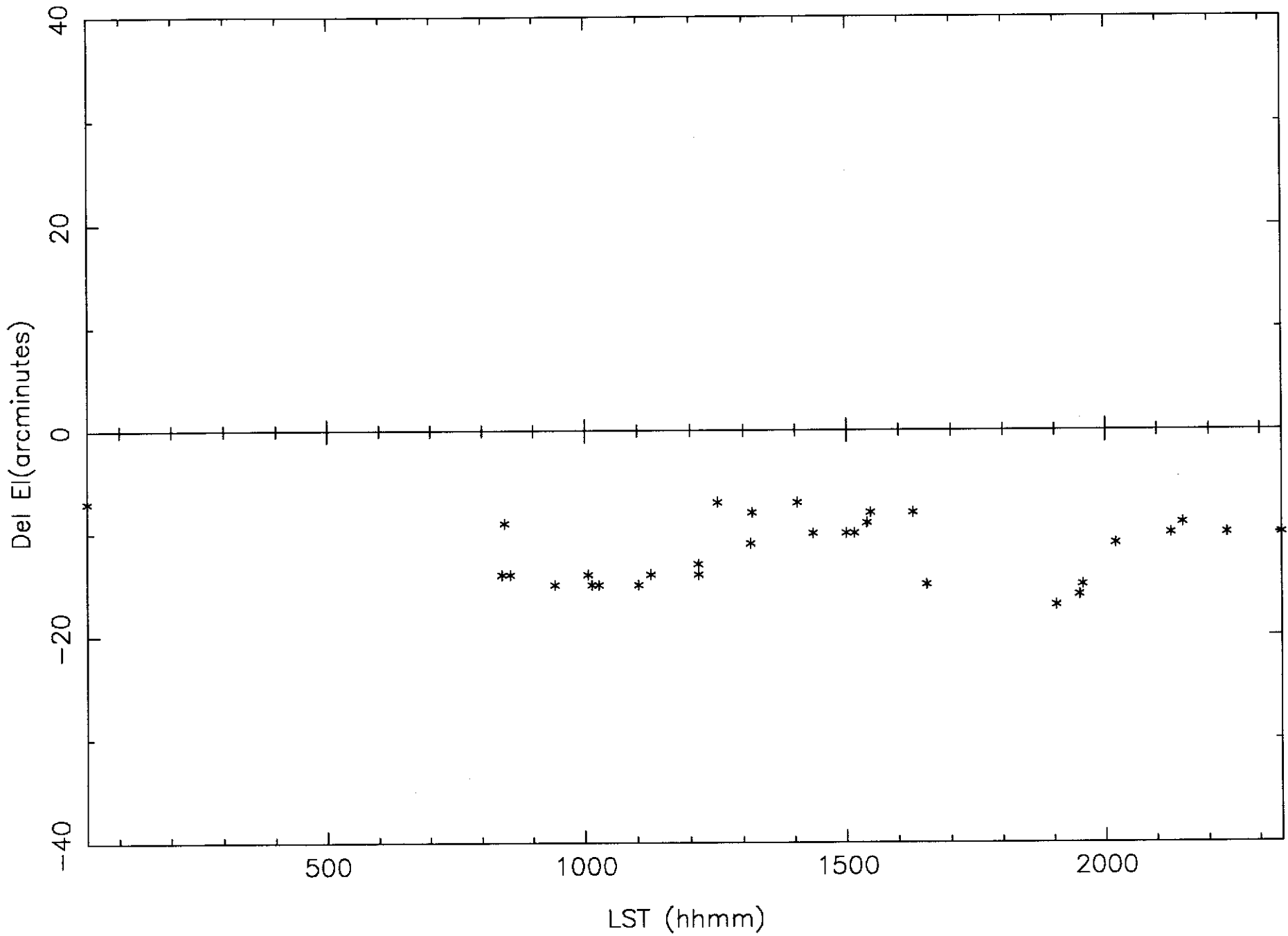
Thus, to remove the offset error, following correction should be done in Servo Computer for current setup. (If feed is rotated, these offset corrections may change, should repeat same expt.) In the current elevation offset 15' and in current azimuth offset value 20' should be added.

The results and respective graphs are enclosed.

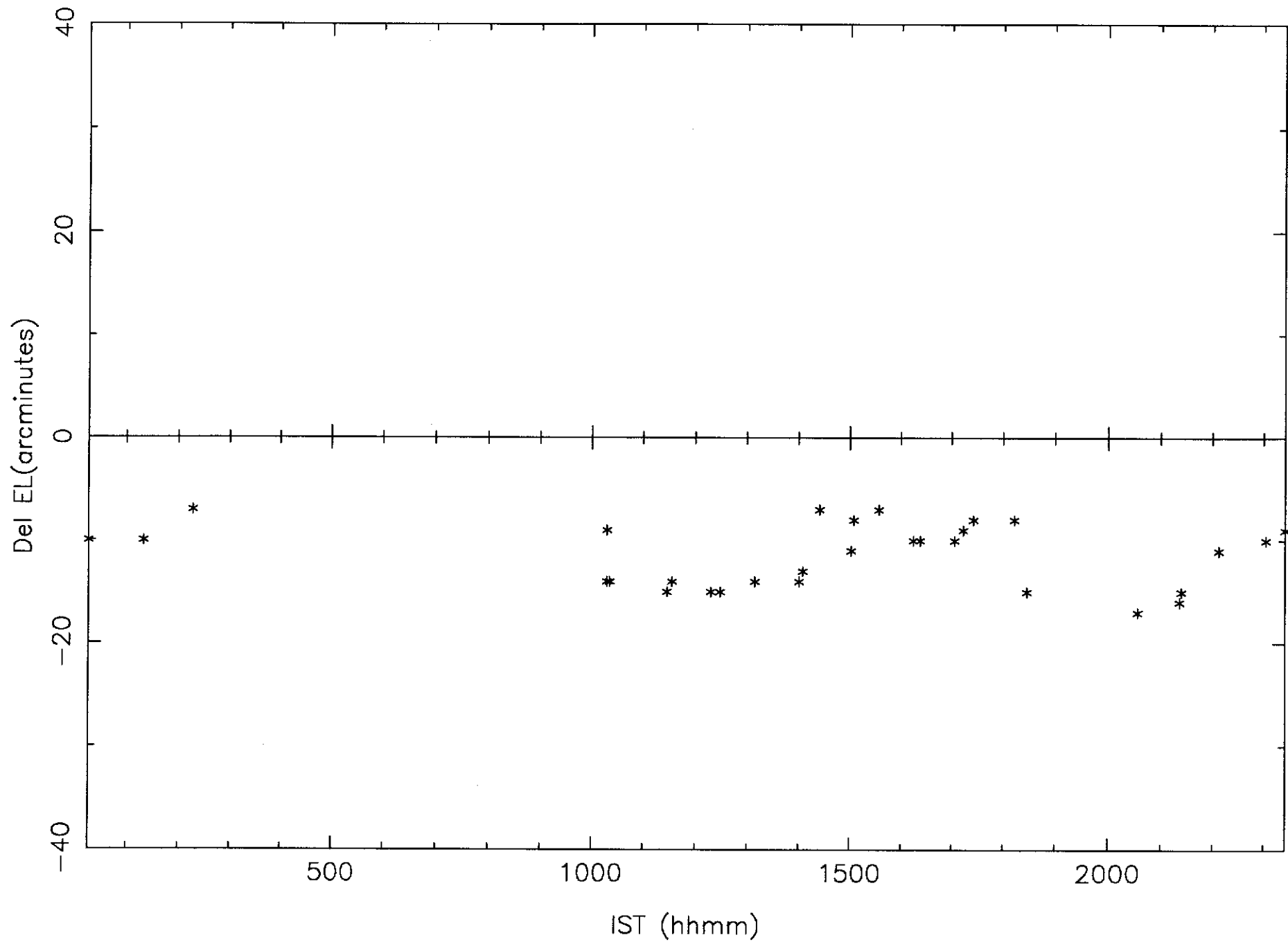
(The feed incremental encoder position is $0^\circ \pm 0.5'$;
consulted Shri. M. R. Sankaranman).

 #C4 DIsh : 610 MHz Feed: 130 MHz Pol Ch
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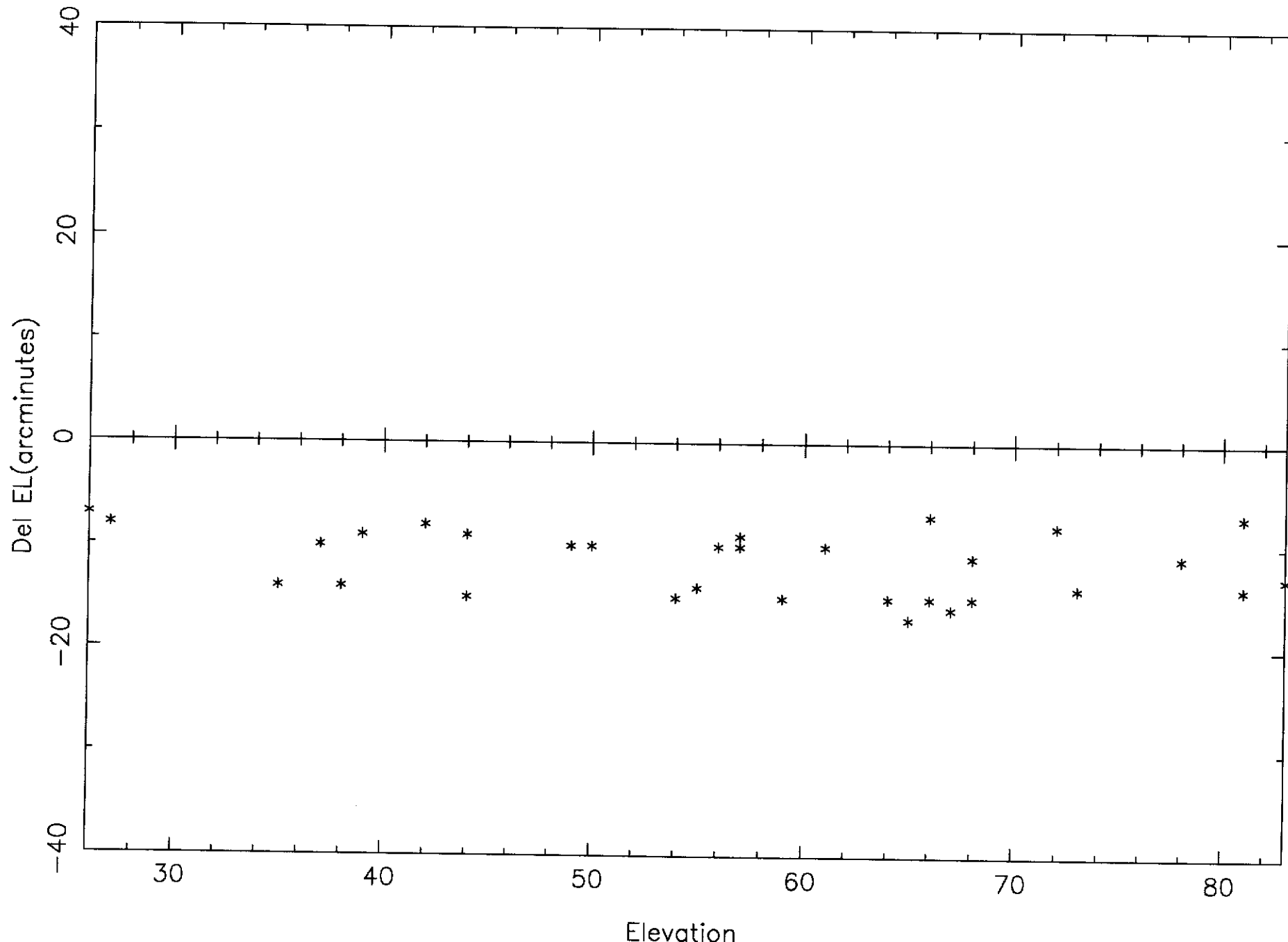
##	IST	LST	Ant.AZ	EL	DelAZ	DeleL	
##	hhmm	hhmm	deg	deg	arc m	arc min	
#####							
1145	0942	-83	59	-20	-15	#1-9-94, Virgo A, VKK-ABA	
1230	1027	-78	64	-20	-15		
1408	1215	-29	83	-20	-13		
1508	1318	+69	72	-20	-08		
1557	1405	+76	66	-20	-07		
1705	1516	+86	50	-18	-10		
1742	1547	+90	42	-18	-08		
1846	1654	230	44	-19	-15	#1-9-94, Cygnus A, VKK-ABA	
2056	1904	205	65	-22	-17		
2212	2020	168	68	-23	-11		
2342	2150	138	57	-18	-09		
1035	0840	-93	35	-16	-14	#2-9-94, Vigo A, VKK-ABA	
1155	1006	-84	55	-18	-14		
1315	1126	-69	73	-23	-14		
1441	1252	+39	81	-20	-07		
1624	1435	+82	57	-17	-10		
1722	1540	+89	44	-19	-09		
2136	1949	184	67	-24	-16	#2-9-94, Cyg A, Pradeep-RPS	
2305	2128	144	61	-19	-10		
0027	2236	130	49	-17	-10		
0133	2342	128	37	-16	-10		
0229	0039	126	26	-16	-07		
1030	0845	-96	39	-16	-09	#3-9-94, Vir A, Pradeep-RPS	
1145	1013	-85	54	-17	-15		
1248	1103	-78	66	-22	-15		
1401	1216	-23	81	-25	-14		
1503	1315	+56	78	-20	-11		
1638	1500	+80	56	-18	-10		
1822	1628	+93	27	-15	-08		
2140	1955	183	68	-24	-15	#4-9-94, Cyg A, Pradeep-RPS	
1030	0856	-92	38	-23	-14	#4-9-94, Vir A, Pradeep-RPS	



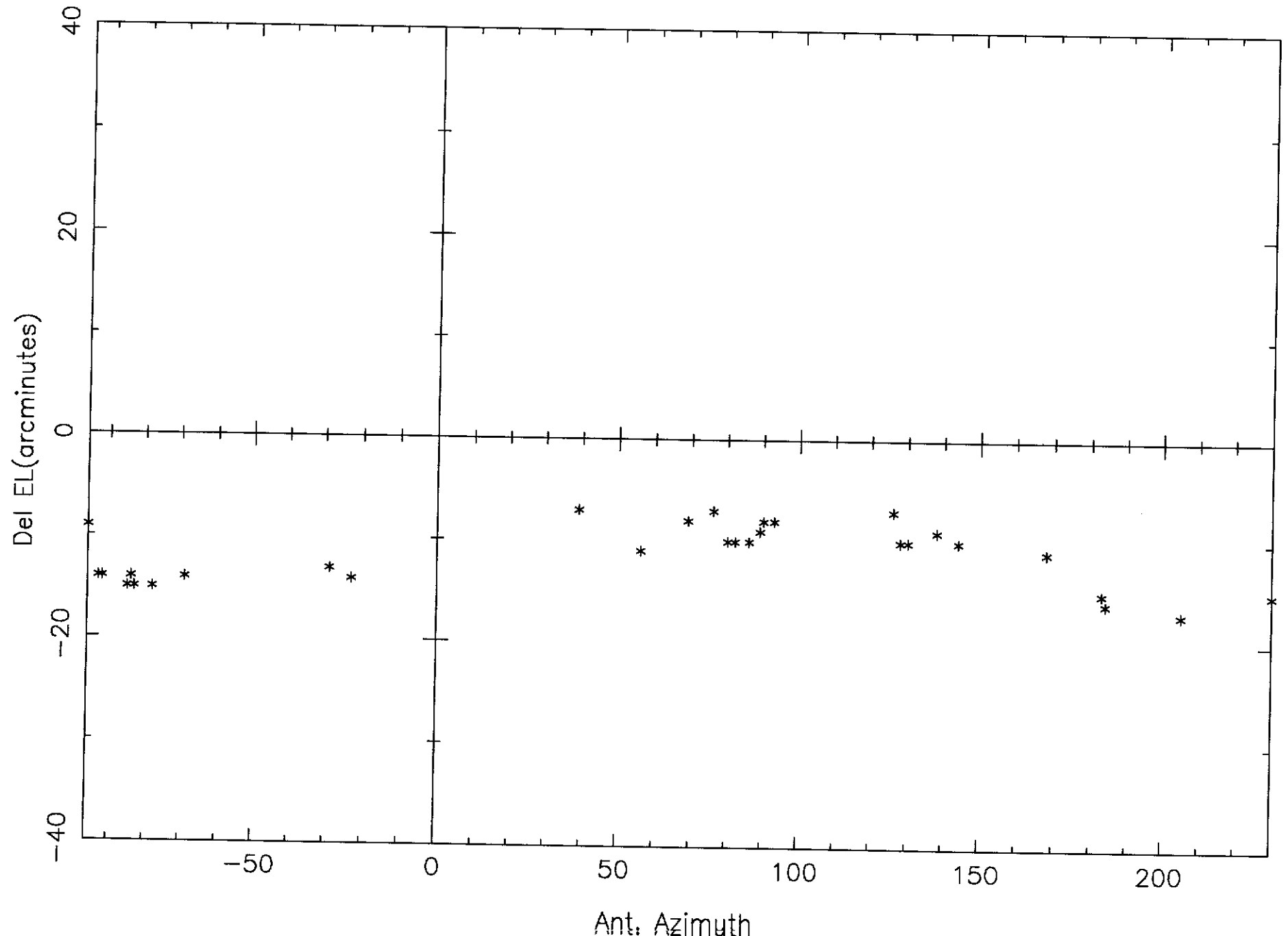
C4: 610: Pointing Err: Cyg-Vir: DelEI vs IST : 1-4 Sept94



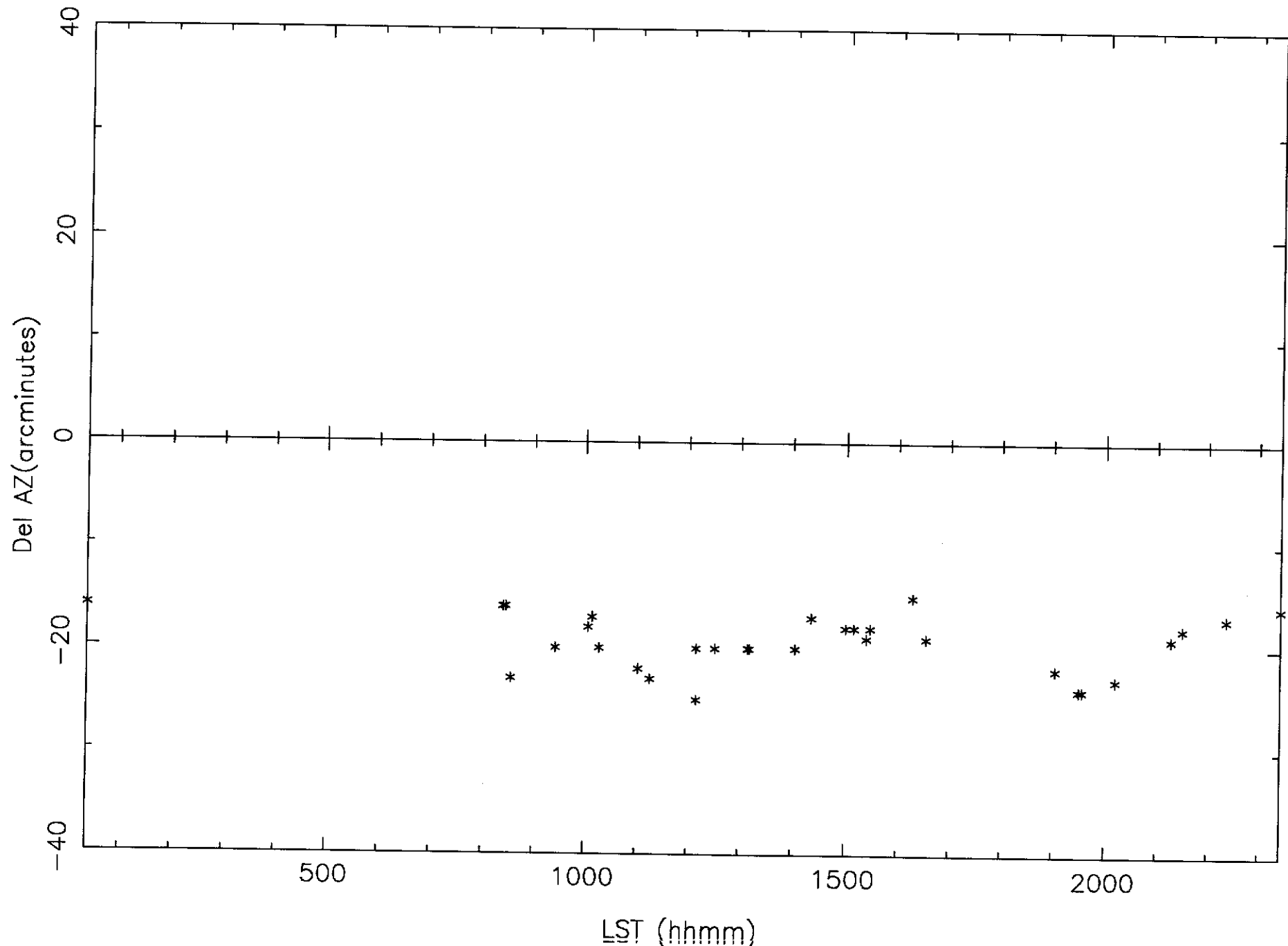
C4: 610: Pointing Err: Cyg-Vir: DelEI vs Elevation: 1-4 Sept94



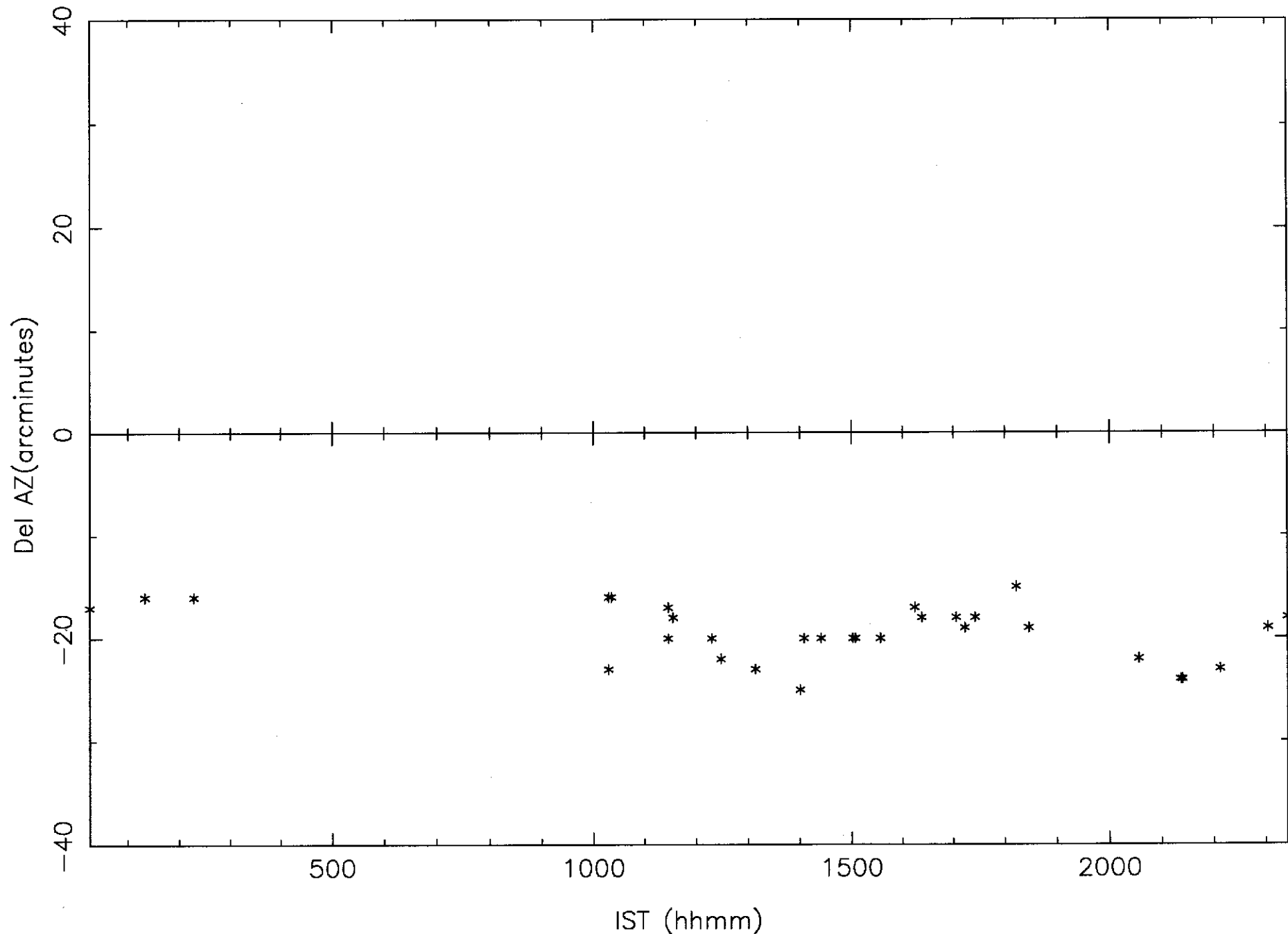
C4: 610: Pointing Err: Cyg-Vir: 1-4 Sept94



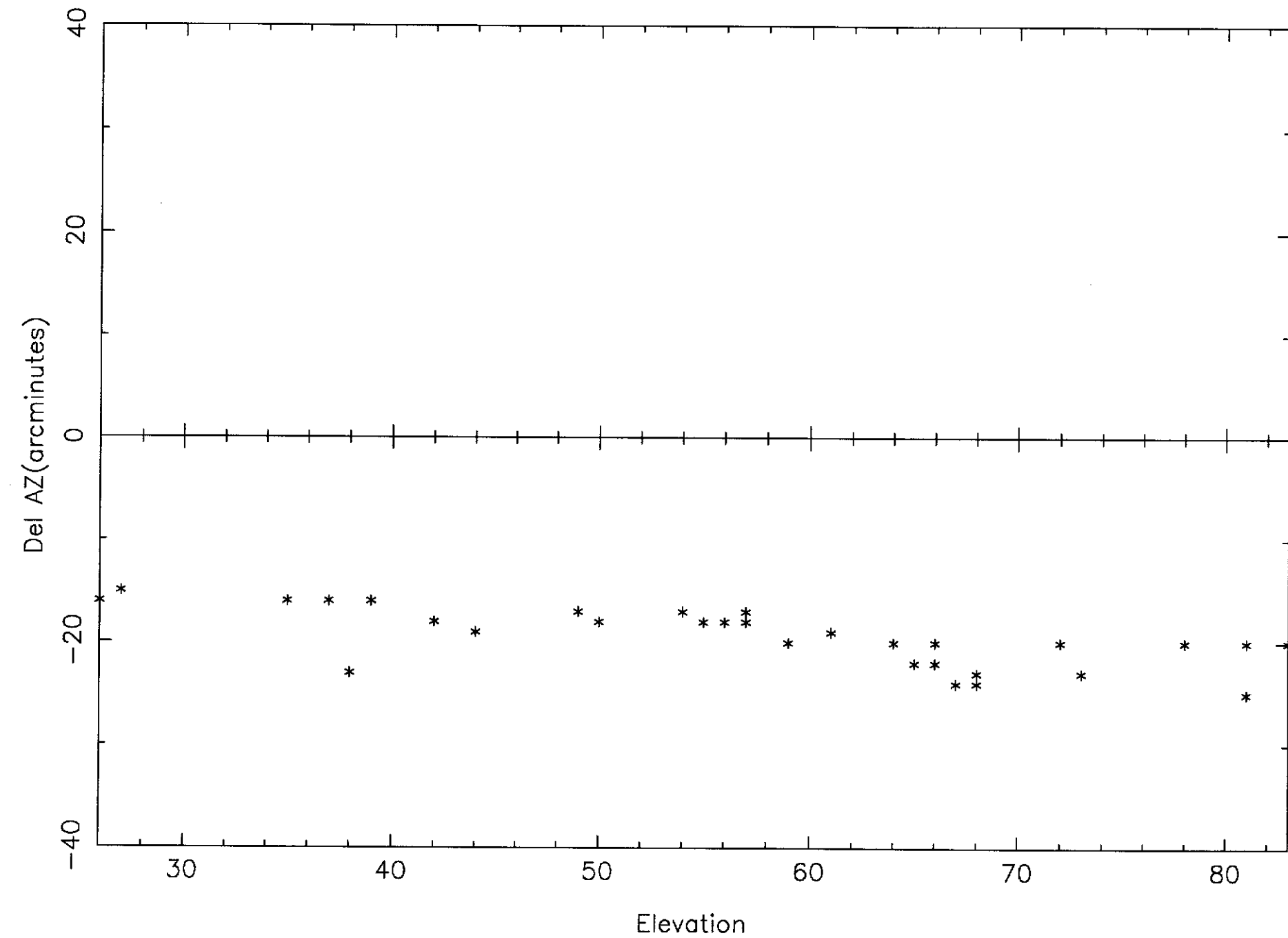
C4: 610: Pointing Err: Cyg-Vir: DelAZ vs LST : 1-4 Sept94



C4: 610: Pointing Err: Cyg-Vir: DelAZ vs IST : 1-4 Sept94



C4: 610: Pointing Err: Cyg-Vir: DelAZ vs Elevation : 1-4 Sept94



C4: 610: Pointing Err: Cyg-Vir: DelAZ vs Ant Az: 1-4 Sept94

