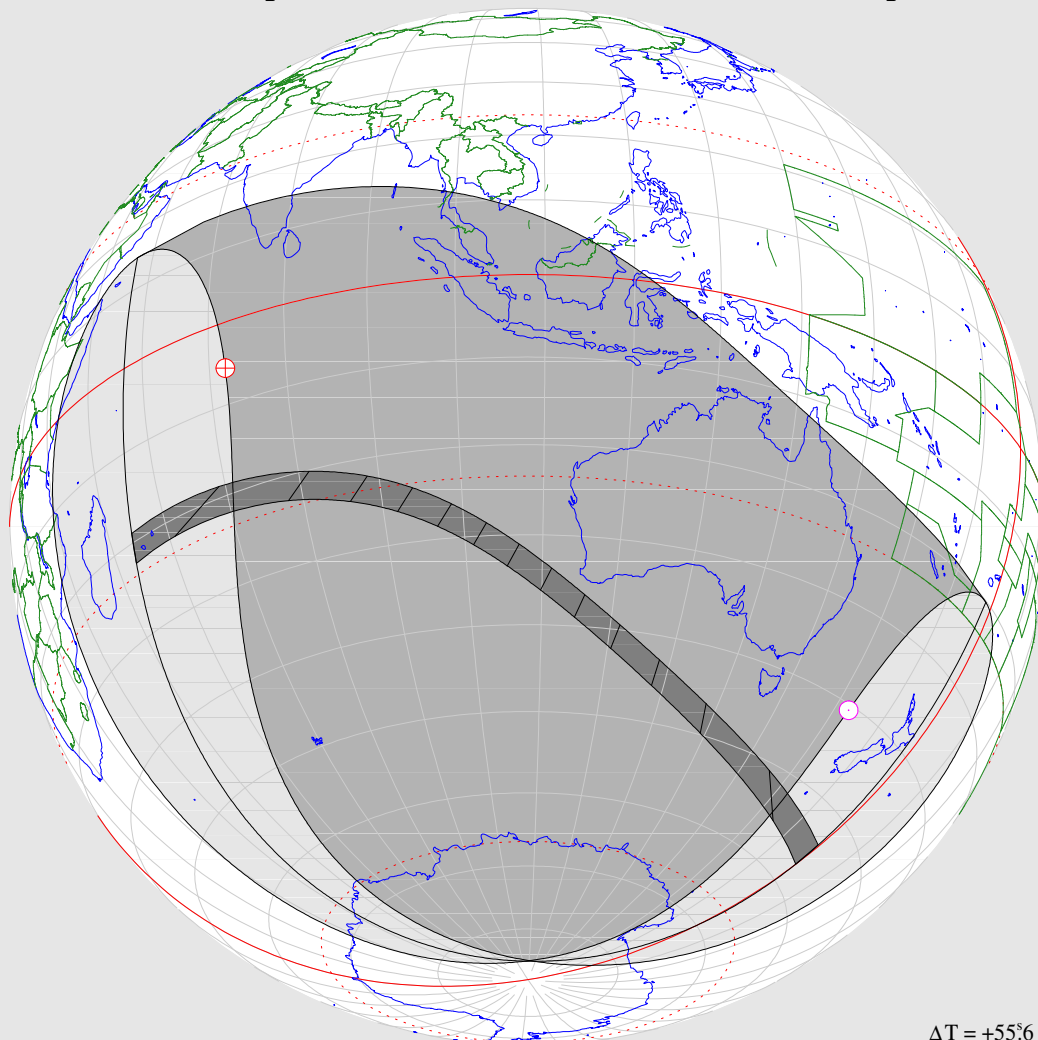


III. - Annular Eclipse of the Sun

1643 September 13



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$\Delta T = +55^s.6$
Globe centred on E 108°1' and S 29°1'

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	1	08.8	E 72	10.3	S 5	39.3
Beginning of northern limit of penumbra	2	03.9	E 56	55.4	N14	51.7
Beginning of northern limit of umbra	2	24.7	E 54	08.9	S 18	57.2
Beginning of centre line; central eclipse begins	2	26.7	E 53	47.0	S 20	35.0
Beginning of southern limit of umbra	2	28.8	E 53	23.8	S 22	15.1
Central eclipse at local apparent noon	4	23.3	E 113	07.4	S 36	24.4
End of southern limit of umbra	5	31.7	E 179	56.9	S 57	05.0
End of centre line; central eclipse ends	5	33.8	E 179	47.6	S 55	25.8
End of northern limit of umbra	5	35.8	E 179	37.9	S 53	48.8
End of northern limit of penumbra	5	56.8	E 178	17.9	S 20	07.6
⊙ Eclipse ends; last contact with Earth	6	51.8	E 162	38.5	S 40	35.0