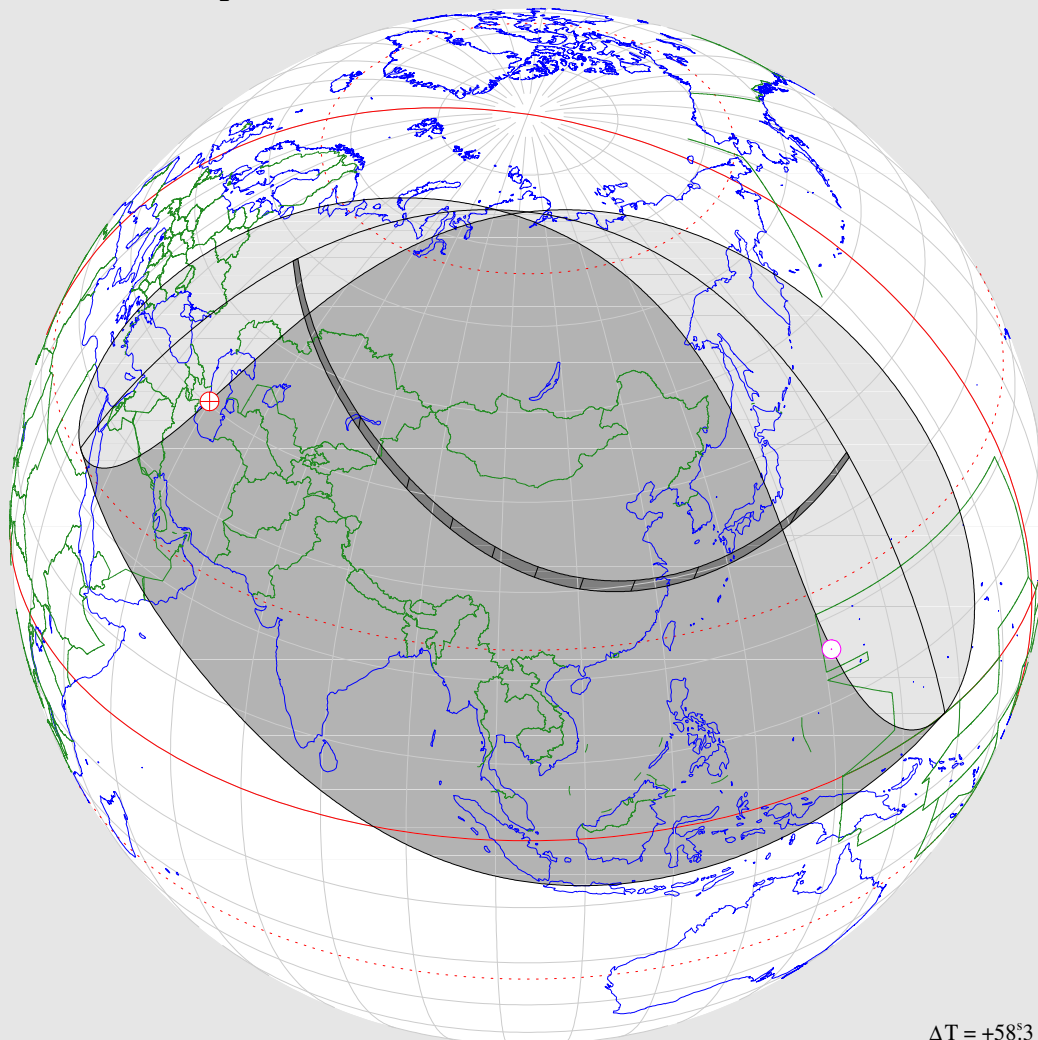


IV. - Total Eclipse of the Sun

1641 November 03



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$\Delta T = +58^s 3$
Globe centred on E 103°6 and N 37°3

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	3	17.7	E 49	52.7	N 40	20.9
Beginning of southern limit of penumbra	4	03.1	E 32	14.7	N 24	20.1
Beginning of southern limit of umbra	4	30.3	E 44	22.0	N 58	11.0
Beginning of centre line; central eclipse begins	4	30.7	E 44	34.5	N 58	28.2
Beginning of northern limit of umbra	4	31.1	E 44	47.4	N 58	45.5
Central eclipse at local apparent noon	5	21.4	E 95	37.1	N 35	54.0
End of northern limit of umbra	6	47.4	E 152	50.1	N 35	45.7
End of centre line; central eclipse ends	6	47.8	E 152	51.7	N 35	25.6
End of southern limit of umbra	6	48.3	E 152	53.2	N 35	05.7
End of southern limit of penumbra	7	15.2	E 157	09.1	N 0	06.0
⊙ Eclipse ends; last contact with Earth	8	00.7	E 141	12.9	N 16	22.5