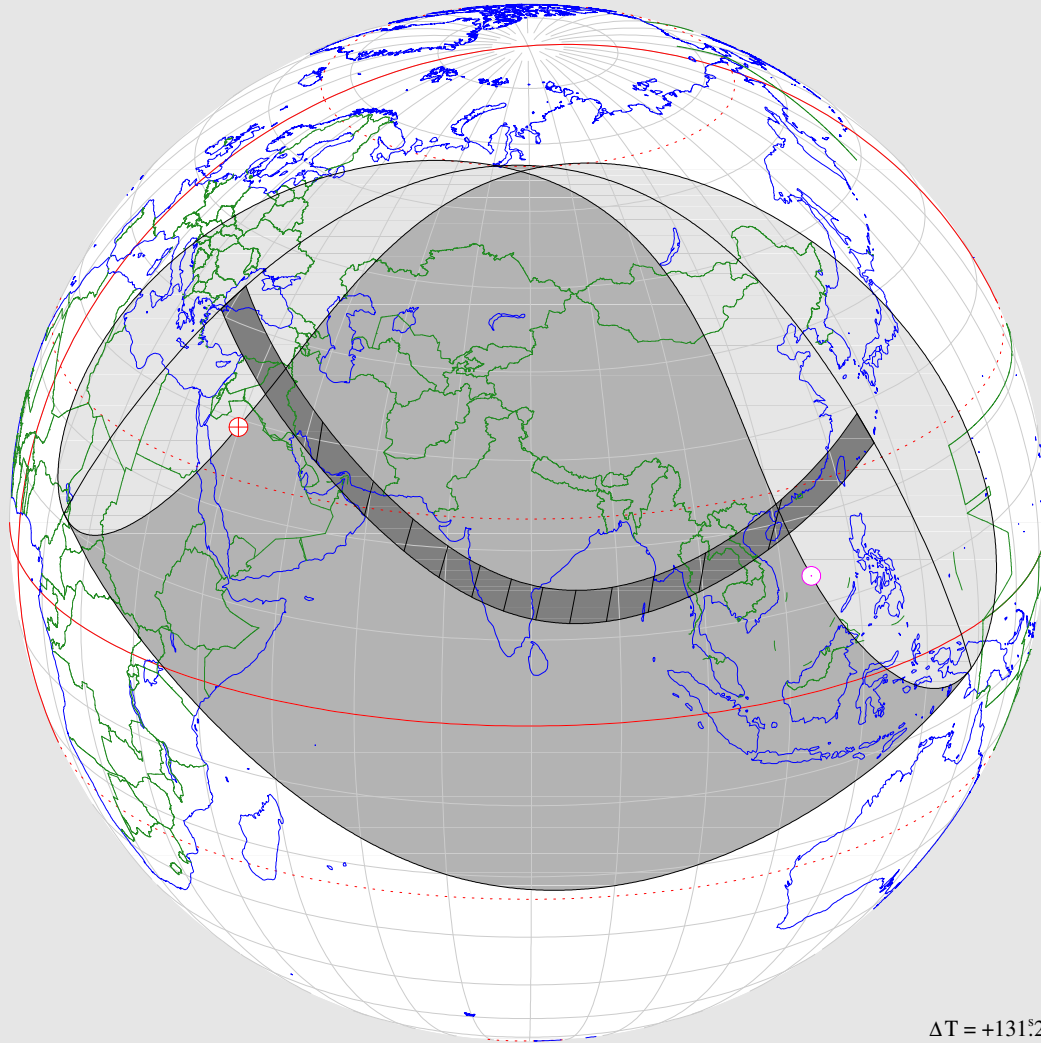


IV. - Annular Eclipse of the Sun

1610 December 15



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$\Delta T = +131^s.2$
Globe centred on E 79°6' and N 23°1'

Circumstances	Time (UT)	Longitude	Latitude
	h m	° /	° /
⊕ Eclipse begins; first contact with Earth	4 12.1	E 39 51.0	N29 08.6
Beginning of southern limit of penumbra	5 19.4	E 13 54.2	N10 59.0
Beginning of southern limit of umbra	5 29.3	E 28 20.7	N40 37.6
Beginning of centre line; central eclipse begins	5 31.2	E 29 17.8	N42 21.5
Beginning of northern limit of umbra	5 33.4	E 30 19.4	N44 07.3
Central eclipse at local apparent noon	6 53.3	E 75 38.5	N15 35.4
End of northern limit of umbra	8 35.9	E126 09.5	N29 02.4
End of centre line; central eclipse ends	8 38.0	E126 41.4	N27 09.3
End of southern limit of umbra	8 40.0	E127 12.7	N25 19.1
End of southern limit of penumbra	8 49.7	E138 42.8	S 5 00.9
⊙ Eclipse ends; last contact with Earth	9 57.2	E 113 47.3	N13 23.7