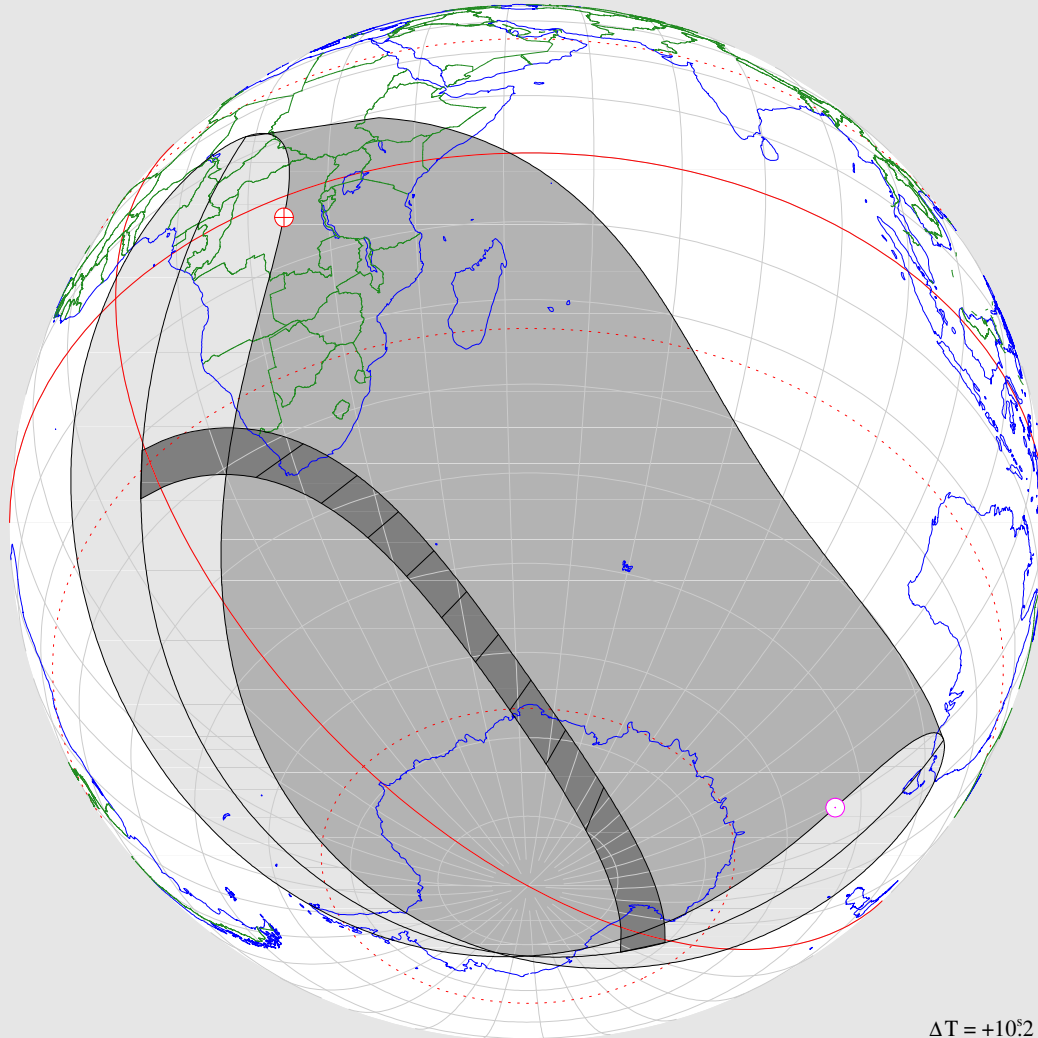


IV. - Annular Eclipse of the Sun

1688 October 24



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$\Delta T = +10^s 2$
Globe centred on E 52°7' and S 45°5'

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	4	03.3	E 24	34.4	S 3	11.6
Beginning of northern limit of penumbra	4	42.7	E 18	31.4	N14	15.6
Beginning of northern limit of umbra	5	26.7	W 0	28.3	S 21	36.7
Beginning of centre line; central eclipse begins	5	30.5	W 1	58.6	S 23	49.7
Beginning of southern limit of umbra	5	34.5	W 3	36.1	S 26	09.3
Central eclipse at local apparent noon	7	31.0	E 63	18.5	S 71	17.6
End of southern limit of umbra	7	58.0	W166	31.0	S 73	35.9
End of centre line; central eclipse ends	8	02.0	W173	14.4	S 71	55.5
End of northern limit of umbra	8	05.8	W178	42.5	S 70	12.3
End of northern limit of penumbra	8	50.2	E 142	45.3	S 36	41.2
⊙ Eclipse ends; last contact with Earth	9	29.4	E 140	43.0	S 53	37.2