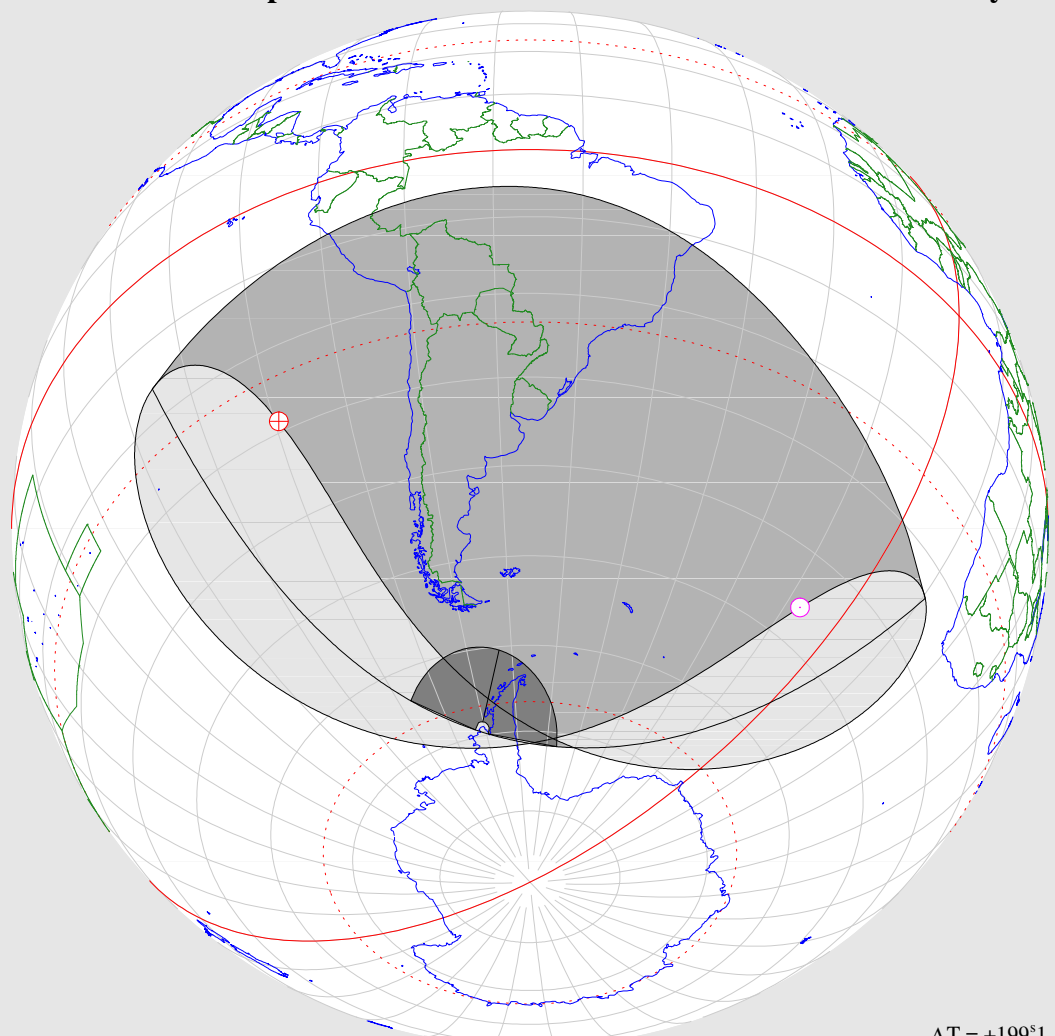


III. - Annular Eclipse of the Sun

1552 July 21



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$\Delta T = +199^s.1$
Globe centred on W 55°9' and S 47°0'

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	12	45.1	W 89	26.6	S 28	42.1
Beginning of northern limit of penumbra	13	28.2	W105	11.5	S 16	04.2
Beginning of northern limit of umbra	14	40.6	W 86	59.2	S 63	35.1
Beginning of centre line; central eclipse begins	14	46.3	W 83	24.6	S 65	34.5
Beginning of southern limit of umbra	14	58.6	W 73	06.4	S 69	06.9
End of southern limit of umbra	15	02.1	W 69	24.2	S 69	54.1
End of centre line; central eclipse ends	15	14.4	W 54	15.5	S 71	33.6
End of northern limit of umbra	15	20.0	W 46	28.6	S 71	40.7
End of northern limit of penumbra	16	32.5	E 10	30.2	S 33	40.6
⊙ Eclipse ends; last contact with Earth	17	15.5	W 7	26.9	S 45	53.1