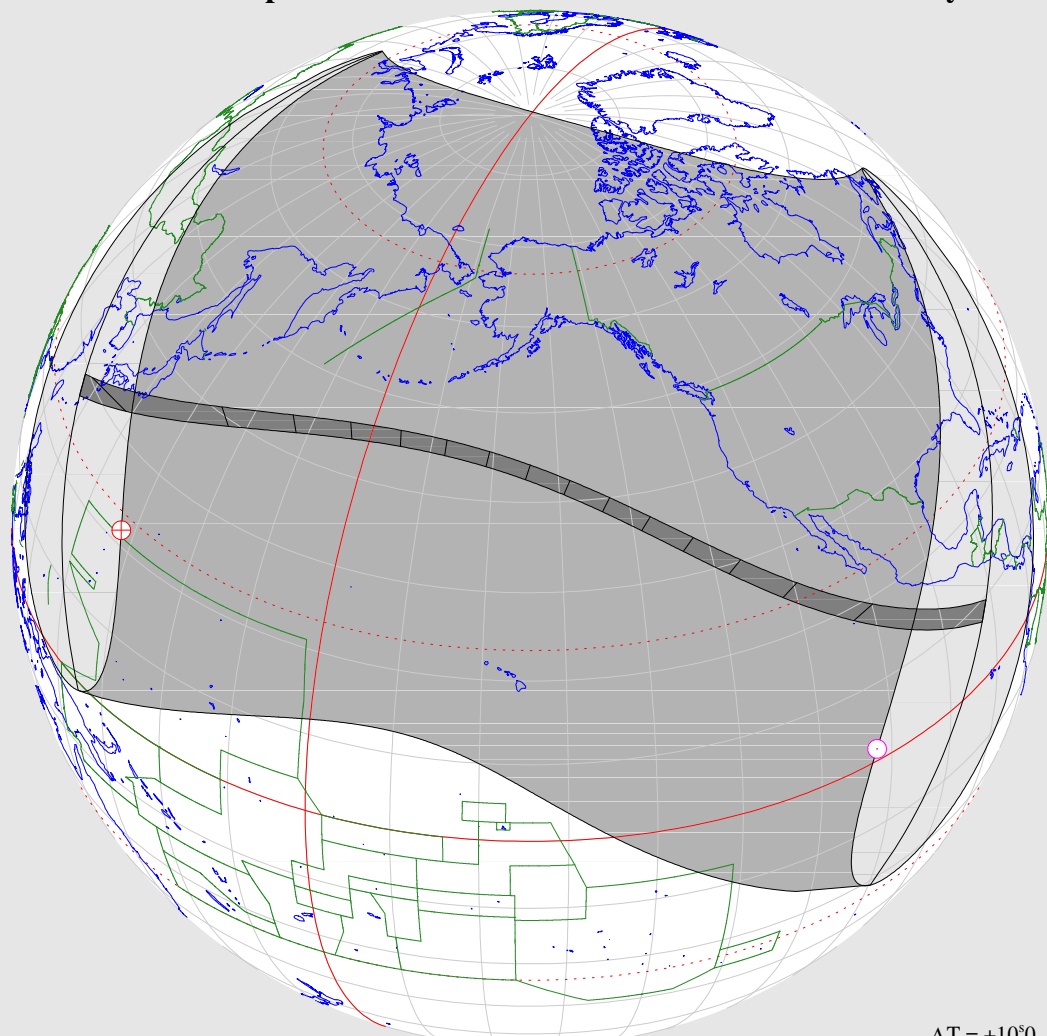


# IV. - Annular Eclipse of the Sun

1712 July 03-04



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$\Delta T = +10^s 0$   
Globe centred on W 154°3 and N 37°1

Circumstances	Time (UT)	Longitude	Latitude
	h m	o /	o /
⊕ Eclipse begins; first contact with Earth	19 34.2	E 147 41.3	N 21 38.0
Beginning of southern limit of penumbra	20 25.5	E 145 02.8	S 1 11.3
Beginning of southern limit of umbra	20 42.6	E 127 35.6	N 27 22.6
Beginning of centre line; central eclipse begins	20 43.8	E 126 45.2	N 28 22.0
Beginning of northern limit of umbra	20 44.9	E 125 53.5	N 29 21.9
Beginning of northern limit of penumbra	21 50.3	E 65 19.6	N 63 28.2
Central eclipse at local apparent noon	22 27.0	W 155 50.1	N 43 37.7
End of northern limit of penumbra	23 19.5	W 50 14.5	N 48 37.1
End of northern limit of umbra	0 24.7	W 91 11.6	N 9 31.1
End of centre line; central eclipse ends	0 25.9	W 91 55.7	N 8 30.1
End of southern limit of umbra	0 27.0	W 92 39.0	N 7 29.5
End of southern limit of penumbra	0 44.0	W 109 31.8	S 21 11.9
⊙ Eclipse ends; last contact with Earth	1 35.3	W 112 14.2	N 1 37.9