

Solar Eclipse Mapping – On and Off the Web

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Revised page 6 with NASA TP 2007-214149 Rev1

SEC2007 — Los Angeles Griffith Observatory

Ephemeris and 2008 TSE



Center line of 2008 August 1st total solar eclipse near Novosibirsk, Russia
Different ephemeris and calculations with $\Delta T=65.3s$ show a spread of some 200 meters:

- |—| — ~50 meters difference
- |—| — ~200 meters difference

- Different ephemeris
- Same value of ΔT
 - White track = Espenak NASA TP 2007-214149 – JPL-DE200/LE200
 - Magenta track = Espenak NASA TP 2007-214149 Rev1 – JPL-DE200/LE200
 - Yellow track = JPL-DE406
 - Green track = Jean Meeus 5MC – ELP2000-82-mod2002
 - Red track = Luca Quaglia and John Tilley – numerical integration based on Prof. Aldo Vitagliano
 - Blue track = Xavier Jubier 5MCSE database – VSOP87D/ELP2000-82B of the *Bureau des Longitudes, Paris*

Refer to “[An approximation to the errors in the planetary ephemerides of the Astronomical Almanac](#)”, E. M. Standish at CalTech/JPL and “[Lunar Tables and Programs from 4000 B.C. to A.D. 8000](#)”, Michelle Chapront-Touzé & Jean Chapront, published by Willmann-Bell