

Comet Lovejoy's Solar Graze in December 2011

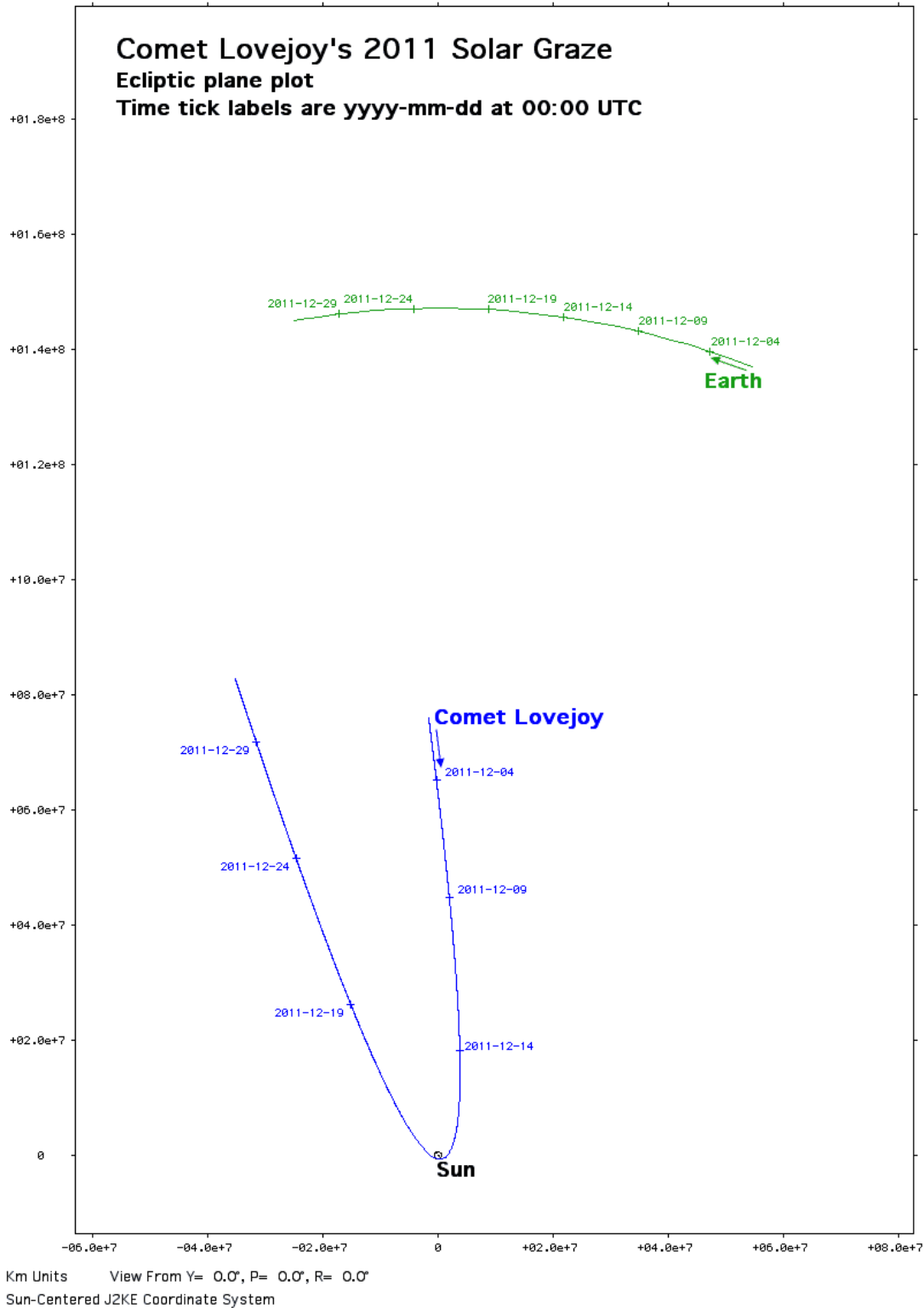


Figure 1. A plot in Earth's Sun-centered orbit plane (the ecliptic) illustrates Comet Lovejoy's grazing flight past the Sun during December 2011. From Earth's perspective, Lovejoy appears to tunnel through the Sun. The comet's orbit period is 314 years, with its maximum solar distance (aphelion) more than 92 times Earth's.

Comet Lovejoy's Solar Graze in December 2011

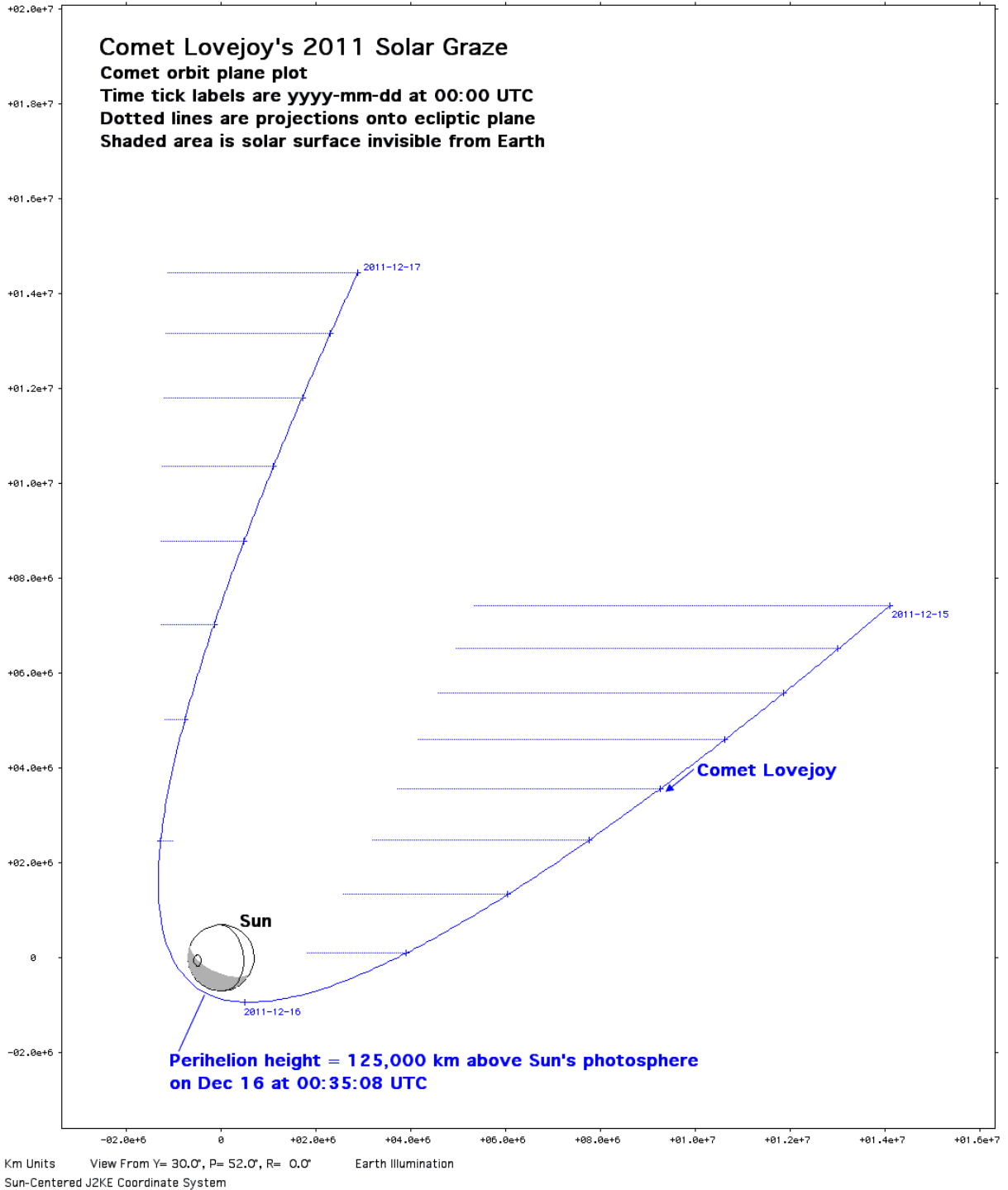


Figure 2. This plot in the plane of Comet Lovejoy's orbit illustrates its Sun-centered motion during a two-day interval containing closest approach (perihelion). The Sun's humanly perceived surface (photosphere) is shaded where it is not observable from Earth's perspective. Dotted projection lines indicate Lovejoy's orbit lies well below the ecliptic plane except for a brief interval from a few minutes before perihelion until a few hours afterward. A collision with Earth is therefore impossible unless this orbit is significantly altered. Comet Lovejoy orbit data are from JPL Solar System Dynamics solution #24.