

The Uranus Equinox: Prediction of Events Occurring During this Opportunity

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Every 42 years, the Earth and the Sun pass through the equatorial plane of Uranus allowing the observation of events. Such observations can provide accurate data on the dynamics of the satellites as well as on their physical properties. The next opportunity will occur in 2006-2009. Such events are uncommon, very rare: especially the mutual eclipses and occultations will allow us to determinate accurate inclinations of the orbits of the satellites, that is usually difficult since the Uranian system is often seen close to its polar axis by Earth-based observers. However, the prediction of the events is very sensitive to the accuracy of the dynamical model used. Hence, we have elaborated a new model adjusted on recent observations to do our predictions. We have found that some events, predicted with the old model, do not exist with the new one. Moreover, we have calculated the eclipses of the satellites by the planet Uranus: these events, observed in the infrared wavelengths, will provide valuable information on the surface of the satellites.