National Aeronautics and Space Administration

Observation Geometry for SmallSats

Charles Acton Navigation and Ancillary Information Facility Jet Propulsion Laboratory/California Institute of Technology charles.acton@jpl.nasa.gov



Positions, velocities, orientations and field-of-view projections

When is an object in transit or occultation?



When is a spacecraft's altitude within a given range?

Lighting angles

A few examples of the many kinds of space mission geometry you can compute using NASA's free SPICE system https://naif.jpl.nasa.gov

The research described in this publication was carried out at the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration. © 2020 California Institute of Technology. Government sponsorship acknowledged.