Solar Pressure Container Model

Can a box-wing model handle the solar radiation pressure effect?

An empirical box-wing model. Orbit fitting technique. GPS orbit residuals over 20 years. Impact of the different SRP models on PPP solution. This study is mainly to propose a box-wing-like model, termed EBOXW, for handling the solar radiation pressure (SRP) effect on GPS satellite.

How to model solar radiation pressure in a cuboid satellite?

For modelling solar radiation pressure, the interaction between the various parts of block is also needed to be considered, which is relatively complex to model. In the process of Box-Wing modelling for similar cuboid satellite, six faces of main body and two solar panel are considered separately.

Can a box-wing model handle solar radiation pressure on GPS satellite?

GPS orbit residuals over 20 years. Impact of the different SRP models on PPP solution. This study is mainly to propose a box-wing-like model, termed EBOXW, for handling the solar radiation pressure (SRP) effect on GPS satellite. This EBOXW model assumes the different radiation effects on both the solar panel and satellite bus.

What is the shape of a satellite with solar panels?

Generally the surface shape of satellite equipped with panels is more complicated when it needs to be modelled for orbit determination,and often use a called Box-Wing simplified model. In this model,the main body of the satellite is seen as a cuboid,while the solar panels are treated as rectanglearound the Y-axis rotation of the satellite.

The box-wing model is an analytical model, with physical properties that reflect the actual solar radiation pressure. Therefore, the box-wing model can be an a priori model to compensate for ...

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Abstract For Global Positioning System (GPS) precise orbit determination (POD), the solar radiation pressure (SRP) is the dominant ...

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Abstract. Among the different non-conservative forces acting on GPS satellites, solar radiation pressure (SRP) has the greatest influence and inappropriate modeling of it can introduce an acceleration with ...

A physical a priori box-wing solar radiation pressure (SRP) model is widely used by most analysis centers for Galileo and QZSS (Quasi-Zenith Satellite System) satellites, complemented by ...

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(SRP) is the dominant nongravitational perturbation force. Among the ...

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The Russian Global Navigation Satellite System (GLONASS) satellites have a stretched body shape and take a specific attitude mode inside the eclipse. Based on previous studies, the new ...

Solar Radiation Pressure Model Performance Test Using GNSS Precise Ephemeris Sungpil Yoon (sungpil.yoon@noaa.gov) and Kevin Choi NOAA/National Geodetic Survey, Silver ...

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