SLR Coverage Analysis for STSAT-2

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KyungHee Kim*, Sang-Hyun Lee*, Jun Ho Lee**, Jonghan Jin***, Noh Hoon Myung*

*Satellite Technology Research Center (SaTReC), Korea Advanced Institute of Science and Technology (KAIST), E-mail: khkim@satrec.kaist.ac.kr
** Department of optical engineering, Kongju National University
*** BUPE Group, KAIST
Motivation

• STSAT-2 (Science and Technology of Satellite – 2) which will be launched in 2009 is a low earth elliptical orbit. The perigee is 300km, the apogee is 1500km, and the inclination is 80 degree.

• STSAT-2 has three attitude status according to the concept of the mission operation.
  • That means LRA always is not toward a SLR station.
    • LRA (+Z axis) is toward the ground station in Korea
    • The solar panel is toward the sun
    • LRA is toward the nadir point of the earth

• This topic is to analyze LRA coverage to measure the returned photons from the satellite to the SLR station in their attitude status.
  • How the field of view of the LRA can be changed at the SLR observatory in Shanghai and Herstmonceux about the attitude status during the contact time.