

## **Development of Sun-Glint Prediction Program For The Communication, Ocean and Meteorological Satellite**

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For helping the successful operation of the Communication, Ocean and Meteorological Satellite (COMS) which will be launched in 2008, algorithm to find precise locations of the sun-glint region on the ocean surface is developed. The precise locations of the sun-glint are estimated by considering Sun-satellite-earth geometry and the law of reflection. The derived nonlinear equations are solved using the Newton-Raphson method. Implementation of the Sun-glint prediction program was performed with C++, an Object Oriented Programming language, and FORTRAN language. Also Qt tool kit by Trolltech was used for implementing the graphical user interface. The validity of the algorithm developed has been demonstrated via STK software simulation. When the geostationary satellite is located at 116.2°E longitude, the sun-glint covers region of ±10° latitude and 80-150° longitude. The developed program algorithm in this paper can be applied to predict the precise locations of Sun-glint region in any other satellite.