

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Interactive Presentations (IP)

Author: Dr. Sangman Moon
Korea Aerospace Research Institute (KARI), Korea, Republic of, msm@kari.re.kr

Mr. Dongsu Choi
Chungnam National University, Korea, Republic of, onlypray4u@cnu.ac.kr
Prof. Jongmyung Woo
Chungnam National University, Korea, Republic of, jmwoo@cnu.ac.kr

DEEP SPACE PROBE HIGH GAIN ANTENNA FIELD OF VIEW ANALYSIS USING 3D EM
SIMULATION FOR ROBUST DESIGN

Abstract

In deep space exploration, the deep space probe must use the high gain antenna(HGA) with a gimbal and a boom for communication margin with the Earth. The blockage and the obstacle in front of the antenna aperture has an effect on the HGA gain degradation or the main beam direction tilting or the radiation pattern ripple etc. on. In this paper, the FOV(Field-of-view) analysis using the commercial EM simulator is proposed the guideline for the antenna installation location and the design consideration. The step by step analysis methode will contribute to reduce the trial error and the design time.