

Seminar On Microwave Power Transmission from Geo Stationary Orbit

April 16, Monday
3 P.M. Seminar Room,
1st Floor, Civil Engineering Building, BUET
Arranged by: ICT, BUET

Solar Power Satellite (SPS) can meet future demand of huge energy. SPS sends the solar energy in the form of microwave (MW) to the Earth receiving antenna (rectenna) site. Microwave Beam Collection Efficiency over 90% is the target. It is difficult to achieve this efficiency. Gaussian

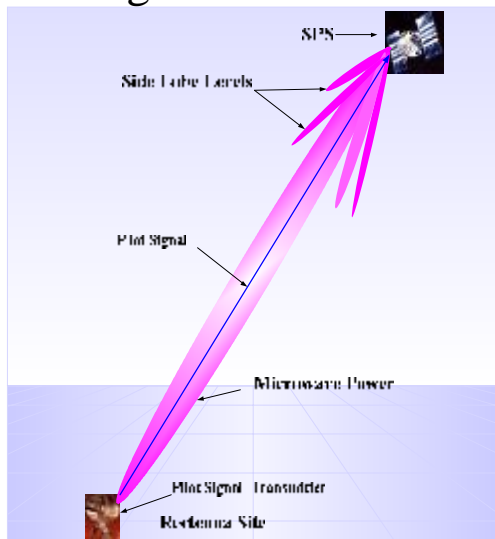


Figure 1 Conceptual Block Diagram of Solar Power Satellite (SPS)

edge tapering of the phased array antenna is the proposed option of NASA and JAXA (Japan Aerospace eXploration Agency) to achieve this efficiency but there are technical difficulties. Some new methods to minimize these difficulties will be presented. One method is Isosceles Trapezoidal Distribution (ITD) edge tapering. Another difficulty of SPS is the estimation of Direction of Arrival of pilot signal precisely. Multiple Signal Classification (MUSIC), MUSIC, TF_MUSIC with antenna phase and gain calibration also be presented and compared.

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