Abstract

This present article demonstrates the design of a mobile ground station terminal using a offset dual reflector antenna geometry called axially displaced ellipse (ADE). ADE configuration provides a compact geometry and superior efficiency particularly when size of the reflector is small. This ground station antenna has been designed for receiving data from IRS satellites in
X-band. A directivity of 46.1 dBi with an efficiency of 75% has been achieved without any shaping to meet the desired G/T requirement for the ground station. It is shown that ADE configuration can be a very good candidate not only for space craft antennas but also for small mobile ground station terminals.

Reference


Index Terms

Computer Science

Information Technology

Key words

G/T

link margin

axially displaced ellipse (ADE) antenna

small reflector antenna

high efficiency antenna