

Title (en)

Planar-parabolic reflector antenna with recessed feed horn.

Title (de)

Antenne mit einem parabolischen und einem ebenen Reflektor und darin eingelassenem Speisehorn.

Title (fr)

Antenne à réflecteurs plan et parabolique avec cornet d'alimentation encastré.

Publication

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Application

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Priority

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Abstract (en)

An axisymmetrical planar-parabolic reflector antenna has a paraboloidal reflector dish (10) and a planar reflector (13) into which the feed horn (11) illuminating the dish (10) is recessed so as to reduce (and preferably minimise) aperture blocking caused by the feed horn (11). In its upper frequency band, the feed horn (11) has a vanishing electric field at the edge of its aperture which suppresses edge currents at the mouth of the feed horn (11) and along the planar reflector surface (13), thereby preventing the flow of ground-plane currents in the planar reflector (13) which would degrade the antenna's performance. In its lower frequency band, the feed horn's choke surrounding the mouth of the feed horn (11) effectively accomplishes the edge current suppression. At a given frequency band, the feed horn (11) produces virtually equal E and H-plane radiation patterns.

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IPC 8 full level

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CPC (source: EP)

H01Q 19/104 (2013.01); **H01Q 19/18** (2013.01)

Citation (search report)

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