Title (en)

SATELLITE ANTENNA USING A PLANAR REFLECTOR AND A MOVABLE FEEDARM AND METHOD TO OBTAIN A SUITABLE PLANAR REFLECTOR

Title (de)

SATELLITENANTENNE MIT EINEM PLANAREN REFLEKTOR UND EINEM BEWEGLICHEN EINSPEISEARM UND VERFAHREN ZUR HERSTELLUNG EINES GEEIGNETEN PLANAREN REFLEKTORS

Title (fr)

ANTENNE DE SATELLITE UTILISANT UN RÉFLECTEUR PLAN ET UN BRAS D'ALIMENTATION MOBILE ET PROCÉDÉ PERMETTANT D'OBTENIR UN RÉFLECTEUR PLAN APPROPRIÉ

Publication

EP 3637546 A1 20200415 (EN)

Application

EP 18199167 A 20181008

Priority

EP 18199167 A 20181008

Abstract (en)

An aspect of the invention concerns a satellite antenna (SA) comprising a planar reflector (PLA), a feedarm (FDA) attached to the planar reflector (PLA) by attaching means (AM); an antenna feed (ANF) attached to the feedarm (FDA) such as to receive the signal focused by the planar reflector (PLA). The planar reflector (PLA) comprises a continuous metallic layer acting as a ground plane and a plurality of conducting patches, said plurality of patches being designed so that the signal reflected by the planar reflector (PLA) is focused to a given focal region, and arranged in one or more layers, such layers being separated among them and from the ground plane by one or more other layers of insulating materials. Furthermore, the attaching means (AM) used to attach the feedarm (FDA) to the planar reflector (PLA) are arranged to allow the feedarm (FDA) to be moved independently from the planar reflector (PLA) so as to position the antenna feed (ANF) in the focused region of the reflected signal.

IPC 8 full level

H01Q 3/18 (2006.01); **H01Q 3/46** (2006.01); **H01Q 15/00** (2006.01); **H01Q 19/10** (2006.01)

CPC (source: EP)

H01Q 3/18 (2013.01); **H01Q 3/46** (2013.01); **H01Q 15/0006** (2013.01); **H01Q 19/104** (2013.01)

Citation (applicant)

- J. HUANG; J.A. ENCINAR: "Reflectarray Antennas", 2008, IEEE PRESS, JOHN WILEY & SONS
- J. SHAKER; M.R. CHAHARMIR; J. ETHIER: "Reflectarray Antennas: Analysis, Design, Fabrication, and Measurement", 2014, ARTHECH HOUSE
- P. NAYERI; F. YANG; A.F. ELSHERBENI: "Reflectarray antennas: theory, designs and applications", 2018, IEEE PRESS, JOHN WILEY & SONS

Citation (search report)

- [X] US 2017352952 A1 20171207 - WEILER RICHARD [DE], et al
- [X] US 2015229032 A1 20150813 - LIU RUOPENG [CN], et al
- [X] CN 102683855 A 20120919 - KUANG CHI INNOVATIVE TECH CO
- [X] WU GENG-BO ET AL: "Wide-Angle Beam-Scanning Reflectarray With Mechanical Steering", IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 66, no. 1, 20 November 2017 (2017-11-20), pages 172 - 181, XP011675119, ISSN: 0018-926X, [retrieved on 20171227], DOI: 10.1109/TAP.2017.2775282
- [X] GUO LU ET AL: "Beam-scanning improvement of reflectarrays using single-layered sub-wavelength elements", 2015 IEEE 5TH ASIA-PACIFIC CONFERENCE ON SYNTHETIC APERTURE RADAR (APSAR), IEEE, 1 September 2015 (2015-09-01), pages 131 - 134, XP032799821, DOI: 10.1109/APSAR.2015.7306172

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3637546 A1 20200415; **EP 3637546 B1 20231227**

DOCDB simple family (application)

EP 18199167 A 20181008