Title (en)

Dual-polarisation reflectarray antenna with improved cross-polarization properties

Title (de)

Doppelpolarisierungsreflektionsarray-Antenne mit verbesserten Kreuzpolarisierungseigenschaften

Title (fr)

Antenne à réseau de réflexion à double polarisation dotée de propriétés de polarisation croisée améliorées

Publication

EP 2337152 B1 20170531 (EN)

Application

EP 10290640 A 20101203

Priority

ES 200931140 A 20091210

Abstract (en)

[origin: EP2337152A1] Dual-linear polarisation reflectarray antenna with improved cross-polarization properties. The reflectarray antenna consists of a planar array of phasing cells illuminated by a feed, that produces a collimated or shaped beam in dual-linear polarisation, where the phasing cells are made of varying-sized conductive patches with a rotation angle that has been adjusted to minimise the cross-polarisation. In a first implementation, the patches in which the angle of incidence is larger than a prefixed threshold are rotated so that the propagation direction of the incident field is contained on a symmetry plane of the patches. In a second implementation, the rotation angle of the patches in each cell is optimized to minimize the cross-polarisation in a prefixed frequency band. The invention can be applied to dual-polarization antennas in Telecommunication satellites

IPC 8 full level

H01Q 3/46 (2006.01); **H01Q 1/28** (2006.01); H01Q 1/38 (2006.01)

CPC (source: EP ES)

H01Q 1/288 (2013.01 - EP); **H01Q 3/46** (2013.01 - EP ES); **H01Q 21/00** (2013.01 - ES)

Cited by

WO2015166296A1; CN109786976A; CN107104287A; CN111403921A; CN103490156A; CN108511889A; US2017179596A1; CN112201964A; CN103887604A; CN115313063A; CN105356066A; CN112421242A; US11322858B2; JP2014165590A; CN107968243A; EP3716402A4; US10553940B1; US10727581B2; US11404775B2; US11688938B2

Designated contracting state (EPC)

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