

Title (en)

Dipole curtain antenna for radiating microwaves.

Title (de)

Dipol-Antennen-Wand für die Ausstrahlung von Kurzwellen.

Title (fr)

Antenne rideau de dipôles pour le rayonnement des micro-ondes.

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Application

EP 88120664 A 19881210

Priority

DE 3742799 A 19871217

Abstract (en)

The invention relates to a dipole curtain antenna for radiating short-waves, in which the dipoles are arranged in columns and rows. Dipole curtain antennas are known. They consist of horizontally polarised dipoles which are arranged in a vertical plane, to be precise in columns and rows. They are used for producing short-wave radio links with the aid of the ionosphere. The requirement exists to supply different destination areas in successive periods of time with one antenna, or to reach the same destination area when the ionosphere is at different heights. This necessitates a change to the vertical polar diagram and, since the number of dipoles determines the type of directivity of the polar diagram, it is intended to create a dipole curtain antenna (e.g. a 4/6) with a high number of dipoles in which it is intended that different operating modes should be possible, e.g. 2/2, 2/4 or 4/4, without the polar diagram having been distorted. It is also intended to be possible to change the polarity of some dipoles. According to the invention, the dipole curtain is constructed of individual dipole modules, each dipole module consisting of two horizontal and/or two vertical dipoles and the vertical interval in each case between adjacent dipoles being less than $\lambda/2$ inside the module and greater than $\lambda/2$ outside the module, and the horizontal interval from dipole centre to dipole centre (centre interval) in each case between adjacent dipoles being equal to $\lambda/2$ inside the module and greater than $\lambda/2$ outside the module, the vertical interval between adjacent dipoles preferably being approximately 0.4 λ inside the module and approximately 0.6 λ outside the module, and the centre interval between adjacent dipoles outside the module being 1.2 λ . A dipole curtain antenna for the radiation of short-waves, in which the dipoles are arranged in columns and rows. <IMAGE>

Abstract (de)

Dipol-Antennen-Wand für die Ausstrahlung von Kurzwellen, beidene die Dipole in Spalten und Reihen angeordnet sind, wobei die Dipolwand aus einzelnen Dipolmodulen (DM 11 bis DM 14, DM 21 bis DM 24 und DM 31 bis Dm 34) aufgebaut ist, wobei jedes Dipolmodul aus zwei horizontalen und/oder zwei vertikalen Dipolen besteht, und wobei der vertikale Abstand jeweils benachbarter Dipole innerhalb des Moduls kleiner als $\lambda/2$ und außerhalb des Moduls größer als $\lambda/2$ ist und der horizontale Abstand von Dipolmitte zu Dipolmitte jeweils benachbarter Dipole innerhalb des Moduls = $\lambda/2$ und außerhalb des Moduls größer als $\lambda/2$ ist.

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