

Title (en)

Method for enlarging the radiation diagram of an antenna array with elements distributed in a volume

Title (de)

Verfahren zur Verbreiterung des Strahlungsdiagramms einer Gruppenantenne mit verteilten Elementen in einem Volumen

Title (fr)

Procédé d'élargissement du faisceau d'une antenne stérique

Publication

EP 0762534 B1 20001122 (FR)

Application

EP 96401829 A 19960827

Priority

FR 9510167 A 19950829

Abstract (en)

[origin: EP0762534A1] The method involves use of an electronic scanning aerial with radiating elements which are distributed inside a volume to be arranged over a reflecting surface. This surface may be plane or a surface of revolution. The width of the beam is widened in a given direction, without causing asymmetric deformations or significantly increasing the secondary lobes. A phase excitation pattern is applied to the radiating elements and an index value is taken for each radiating element according to the expression $n = (2\pi/\lambda)P_n + 2k\pi$, where λ is the wavelength of the radiation emitted or received and P_n is the distance between the radiating element of index n and the point on the outside of the aerial situated on the directional axis on the opposite side from the aimed direction.

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