

Title (en)

Slotted waveguide antennas and arrays.

Title (de)

Hohlleiter-Schlitzantennen und Anordnung solcher Antennen.

Title (fr)

Antennes guides d'ondes à fentes et réseaux de telles antennes.

Publication

EP 0190927 A2 19860813 (EN)

Application

EP 86300779 A 19860205

Priority

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- GB 8505198 A 19850228

Abstract (en)

Array antennas constructed from some forms of waveguide radiators with sidewall slots exhibit cross polarisation and periodic errors. This problem arises from the difficulty of obtaining phase reversal in the radiation from adjacent slots in such a radiator other than by slot inclination. The present invention offers two solutions. Firstly, a radiator 10 having a number of non-inclined sidewall slots such as 13 and 14 and a septum 15 with inclined slots such as 25 and 26 which provide a phase relationship in the radiation from the sidewall slots which ensures that no significant cross polarisation errors nor grating lobes occur. A number of radiators 10 can be used to form an array. Secondly, arrays using radiators with sidewall slots, in which the distance between these slots, the dimensions of the radiators and the relative positions of individual radiators are such that the phase relationship in radiation from the slots of the array prevent significant grating lobes.

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