

Title (en)

CONTINUOUS TRANSVERSE STUB ELEMENT DEVICES AND METHODS OF MAKING SAME

Title (de)

VORRICHTUNGEN MIT KONTINUIERLICHEN QUERELEMENTEN UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

DISPOSITIFS A TENONS TRANSVERSAUX CONTINUS ET PROCEDES DE FABRICATION

Publication

EP 0729649 A1 19960904 (EN)

Application

EP 94929229 A 19940919

Priority

US 9410496 W 19940919

Abstract (en)

[origin: WO9609662A1] A dielectric material is formed into a structure having two parallel broad surfaces with one or more raised integral portions extending transversely across at least one of the broad surfaces. The exterior is uniformly conductively coated resulting in a parallel plate waveguide having a continuous transverse stub element disposed adjacent one plate thereof. Purely reactive elements are formed by leaving the conductive coating on the terminus of the stub element, or by narrowing the terminus of the stub element. Radiating elements are formed when stub elements of moderate height are opened to free space. Radiating, coupling and/or reactive continuous transverse stub elements may be combined in a common parallel plate structure in order to form a variety of microwave, millimeter wave and quasi-optical component including integrated filters, couplers and antenna arrays. Fabrication of the dielectrically-loaded continuous transverse stub element can be efficiently accomplished by machining, extruding or molding the dielectric structure, followed by uniform conductive plating in order to form the parallel plate transmission line. In the case of antenna applications, machining or grinding is performed on the stub terminus to expose the dielectric material at the end of the stub element.

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