Abstracts

Enhancing the natural frequency doublet splitting in almost periodic azimuthally corrugated cavities

A. Serebryannikov and K. Schuenemann. "Enhancing the natural frequency doublet splitting in almost periodic azimuthally corrugated cavities." 2002 Microwave and Wireless Components Letters 12.2 (Feb. 2002 [MWCL]): 54-56.

A symmetry of a corrugated periodic structure can be broken due to loading or/and fabrication defects so that frequency doublets may appear, whose frequencies are just slightly splitted. In this letter, we study the potentials to enhance this splitting by enhancing the asymmetry of the cavity. This is provided by a single (loaded) resonator which differs in its geometry from other resonators. The initial causes of the asymmetry are not taken into account. The used characteristic matrix equation is obtained by a mode-matching technique. It is shown that the doublet splitting can reach several percent due to a convenient choice of the geometry of the loaded resonator.

❑ Return to main document.