

Abstract

High-Q multi-mode dielectric resonant structure and dielectric filter

Disclosed are a high-Q multi-mode dielectric resonant structure and a dielectric filter. The high-Q multi-mode dielectric resonant structure includes a cavity, a dielectric support frame, a dielectric resonator and a cover plate, and the cavity is formed by a sealed space, herein one surface of the cavity is a cover plate surface; the dielectric resonator is formed by a medium; and the dielectric support frame is mounted in any positions between the dielectric resonator and an inner wall of the cavity, matched with any shapes of the dielectric resonator and the cavity and fixed by connecting, and the ratio of the dimension of the inner wall of the cavity to the corresponding dimension of the dielectric resonator corresponding to three axial directions thereof is between 1.01-4.5. Embodiments of the present invention may solve a scheme that the filter is small in volume, low in insertion loss, and high in suppression, and may form a multi-mode, and a Q value is greater than that of a traditional dielectric multi-mode technology.

Figure 1