Abstracts

Magnetostatic Wave Resonators of Microstrip Type

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We propose a new type of magnetostatic wave resonator using the Yttrium Iron Garnet (YIG) film with circular metal strips. Assuming the magnetic wall at a edge of strip, a simple dispersion relation is derived and estimated numerically to get the resonant frequency and quality factor as a function of resonator dimensions. Next more practical model of resonator is assumed and analyzed using mode matching technique. The best resonator characteristic is designed with the high concentration of magnetostatic wave energy within a circular strip. Finally resonant characteristic is demonstrated experimentally.

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