Abstracts

YIG Resonator Circuit with Isolator Property and its Application to a Gunn Diode Oscillator (Dec. 1978 [T-MTT])

F. Okada, K. Ohwi and Y. Yokochi. "YIG Resonator Circuit with Isolator Property and its Application to a Gunn Diode Oscillator (Dec. 1978 [T-MTT])." 1978 Transactions on Microwave Theory and Techniques 26.12 (Dec. 1978 [T-MTT] (1978 Symposium Issue)): 1035-1039.

This paper presents the analysis and experiment of a newly developed YIG resonator circuit with isolator property, which is constructed with a YIG sphere, three coupling loops, and a 3-dB stripline directional coupler. This YIG circuit can be used advantageously as the toning element of a magnetically tunable oscillator. The circuit has an advantage in preventing frequency pulling and the variation of output power level of the oscillator due to a change in load condition because of the resonator circuit having isolator property at the same time. The design procedure and experiment of a magnetically tunable Gunn diode oscillator with the YIG circuit is also shown. It has been confirmed that the YIG circuit when applied to a tunable oscillator is quite useful.

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