Abstracts

Orientation of YIG Spheres for Minimum Temperature Dependence (Correspondence)

E.J. Wrobel. "Orientation of YIG Spheres for Minimum Temperature Dependence (Correspondence)." 1964 Transactions on Microwave Theory and Techniques 12.5 (Sep. 1964 [T-MTT]): 571-571.

Due to magnetocrystalline anisotropy energy, YIG spheres display a resonant frequency shift with temperature variation. By orienting the sphere along certain directions relative to the applied dc magnetic field, this frequency shift with temperature can be minimized. Clark, Brown, and Tribby have analyzed this problem, and resorted to X-ray alignment using the Laue back reflection pattern to obtain the temperature-stable orientation. They have pointed out the difficulty in maintaining the accuracy of alignment in transferring the sphere from the X-ray apparatus to the RF structure.

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