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## INVESTIGATION OF INITIAL STRESS ON TORSIONAL VIBRATIONS IN AN ANISOTROPIC MAGNETO-POROELASTIC HOLLOW CYLINDERS

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### ABSTRACT

In the present paper, torsional waves in an anisotropic magneto-poroelastic hollow cylinder are studied in the presence of initial stress. Governing equations are derived from Biot's theory of deformation. The frequency equation is obtained with the help of boundaries conditions. Frequency against the ratio of thickness to inner radius for different values of initial stress is calculated. The result obtained theoretically is computed for two types of materials and are presented graphically.

**Keywords:** Anisotropic, Poroelasticity, Magnetic field, Frequency equation, Frequency, Hollow cylinder, Torsional vibrations, Initial stress.