

COAXIAL GYRO-BWO.

1. LINEAR THEORY. STARTING CURRENTS

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S u m m a r y

The analytical investigation of the backward wave oscillator operating at the resonance of a relativistic electron beam (REB) with a backward wave on the normal Doppler effect (gyro-BWO) in a coaxial tube is developed. The linear theory of exciting process is presented. The dependence of starting current values upon the coaxial waveguide length, electron beam energy, magnetic field strength, and ratio of the initial transversal momentum of REB to its initial longitudinal one is investigated.