Abstracts

Pickup Antennas for Waveguide Motors (Correspondence)

R.W. Steinhoff and T.K. Ishii. "Pickup Antennas for Waveguide Motors (Correspondence)." 1966 Transactions on Microwave Theory and Techniques 14.9 (Sep. 1966 [T-MTT]): 438-438.

A parametric motor energized by radio waves at 425 kHz was first built by Schudner while Stockman was the first to utilize a directive antenna for a radio wave motor operated at 50 mHz. Stockman also analyzed the parametric motor circuit with low-frequency models and found that the differential equation of the motor circuit was a Mathiew-Hill Equation. His experimental results of low-frequency parametric motors were also theoretically analyzed by Blasgen and Monson. For the Stockman's radio-frequency motor with a directive antenna, the analysis is yet incomplete. The feasibility and design of a waveguide motor operating on microwave energy has been reported previously by Gamier and Ishii. Recent investigation by Sedivy revealed that the differential equation of torque for the "microwave motors" is not a Mathiew-Hill equation. The purpose of this correspondence is to present the effect of various pickup antennas on the waveguide motors speed vs. input power relationship at frequencies of 2.56, 3.0 and 3.44 GHz.

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