

Journal of Electromagnetic Waves and Applications, Vol. 5, No. 6, 607-622, 1991

© 1991 VSP

Scattering by Rotating Optical Fibers

L. Schächter* and D. Schieber

Department of Electrical Engineering
Technion-Israel University of Technology
Haifa 32000, Israel

Abstract— Reflection from a rotating optical fiber is analyzed. It is shown that there are angles where the variation in the reflected power due to rotation is significant and it may be measurable even for relatively low angular velocities as 30 m/sec. The total variation in the reflected power is zero. We also determine the relation between the field (average) angular momentum and the (average) power carried away by each angular harmonic.