Asymptotic Methods in
Short-Wavelength Diffraction Theory

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READERSHIP: Postgraduate Students, Professionals & Researchers in electromagnetics, seismology, acoustics
and mathematical physics

Asymptotic Methods in Short-Wavelength Diffraction Theory is dedicated to modern approaches of a high-frequency technique in diffraction theory. Among the considered topics are: the ray method, the parabolic equation approach, the method of “etalon” problems, an asymptotics of the Laplacian eigenfunctions and of the Green’s function to the Helmholtz equation, the theory of high-frequency whispering-gallery waves. Recent results from the literature dealing with localized asymptotic solutions and uniform representation of a high-frequency wave-field are also reviewed. The monograph is addressed to the experts on electromagnetics, seismology and acoustics as well as to mathematicians interested in modern approaches of the mathematical physics.