# Diffraction of Electromagnetic Waves

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The general method to obtain solutions of the Maxwellian equations from scalar representatives is developed and applied to the diffraction of electromagnetic waves. Kirchhoff's integral is modified to provide explicit expressions for these representatives. The respective integrals are then evaluated using the method of stationary phase in two dimensions. Hitherto unknown formulae for the polarization appear as well as for imaging by diffraction. Ready-to-use formulae describing Fresnel diffraction behind a round stop are presented.