INTENSITY EFFECT IN DIFFRACTION GRATINGS WITH MAGNETIC LAYER

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A magnetooptic effect which arises when the electromagnetic wave propagates through a two-layer structure made up of a metal diffraction grating and a magnetized dielectric layer is considered. The rigorous solution of the problem of diffraction by the structure suggests that there is a strong dependence between the intensity in the zero diffraction order and the layer magnetization. We offer a qualitative explanation that relates the said effect with waveguide modes.

Magneto-optics, magnetooptical effect, diffraction grating, rigorous diffraction theory

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