Abstract

Diffraction in Left-Handed Materials and Theory of Veselago Lens

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A theory of diffraction in the system consisting of the left-handed and the right-handed materials is proposed. The theory is based upon the Huygens's principle and the Kirchhoff's integral and it is valid if the wavelength is smaller than any relevant length of the system. The theory is applied to the calculation of the smearing of the foci of the Veselago lens due to the finite wavelength. We show that the Veselago lens is a unique optical instrument for the 3D imaging, but it is not a "superlens" as it has been claimed recently.

[¶]Presenter