

عنوان مقاله:

Analysis of Transmittance Spectra of One-Dimensional Metamaterial-Superconductor nano-photonic crystal for THz Applications

محل انتشار:

پنجمین کنفرانس بین المللی مهندسی برق و کامپیوتر با تاکید بر دانش بومی (سال: 1396)

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خلاصه مقاله:

In this paper, we investigate the transmission spectrum of the one-dimensional photonic crystal by using the two-fluid model and the transfer matrix method. Our structure composed of the layers of low-temperature superconductor material and metamaterial as (M-S)N. We study the effect of the thickness of the metamaterial layer. Numerical results show the appearance of the cutoff frequency, below which the incident electromagnetic waves cannot propagate in these structures. We see that the cut-off frequency can be tuned efficiently by changing the thicknesses of the constituent materials. Our structures are good candidates for many optical devices such as optical filters, switches, optical shutters and another applications in terahertz

کلمات کلیدی:

Metamaterial, Superconductor, nanophotonic crystal

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