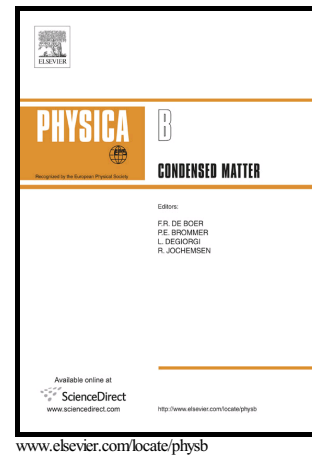# Author's Accepted Manuscript

Transmission of light through an optical filter of a one-dimensional photonic crystal: application to the solar thermophotovoltaic system

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**Transmission of light through an optical filter of a one-dimensional photonic crystal:**

**application to the solar thermophotovoltaic system.**

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**Abstract**

This paper presents a study of the thermal efficiency of the emitter and the spectral filter of a one-dimensional photonic crystal applied to a solar thermophotovoltaic system. The transfer matrix method is used to analyze the frequency behavior of a structure containing a defect layer. Results show a variation of the light transmission peak when the period and angle of incidence change. For a multilayer structure having a defect layer, different variations of the transmission peak are observed when the period and incident angle vary. And for a multilayer structure without layer defect, the peak of transmission does not appear despite the variations of the incident angle and the period.