سیویلیکا - ناشر تخصصی مقالات کنفرانس ها و ژورنال ها
گواهی ثبت مقاله در سیویلیکا
CIVILICA.com

عنوان مقاله:

Thermal emissivity calculation and simulation ofthermal selective emitters in thermophotovoltaicpower generation systems for the purpose ofefficiency improvement

محل انتشار:

همایش سراسری فناوری و تکنولوژی در مهندسی عمران، معماری،برق و مکانیک (سال: 1395)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Hamidreza Saedi - *Faculty of Energy and EnvironmentalEngineeringIslamicAzadUniversityScience &Research Branch*

Andisheh ShiehBeigi - *Faculty of Energy and Environmental Engineering Islamic Azad University Science &Research Branch*

Alireza Mola ali Kani - *Faculty of Energy and Environmental Engineering Islamic Azad University Science &Research Branch*

خلاصه مقاله:

Energy conversion by means of thermophotovoltaics (TPV) technology becomes theinterest research field of scientists and emphasized have been made on opticalemissivity of the emitter properties and tailoring the emissivity spectrum with PV cellexternal quantum energy (EQE). Selective thermal emitters applied by researchers tonhanced the global efficiency of the system.Within the stage of design, simulationmethods such as finite difference-time domain (FDTD) used to determine optimumgeomtry and physical shape of emitters. In this paper, 1-D tungsten optimizedspectrally which correspond to GaInAsSb TPV cell. The emitter's temprature is set to1000K and grooves engraved on the the surface of the emitter that illuminated byplanar light wave. This paper illustrate that monochromatic nano-structures surfacesexcite localized modes as regarded TM and TE. Also channel plasmon polariton(CPP) propagation by triangular groove investigated and efforts made to enhance thepropagation of these .modes along the tip of the grooves

کلمات کلیدی:

Nano-structure , TPV , FDTD , Thermal radiative

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/566504