

## **Theoriekolloquium**

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Am **4. Mai 2017** um **14.15 Uhr** in **W2 1-143** hält

**Herr Sajjad Mirmoosa (Espoo)**

einen Vortrag mit dem Titel

### **Metamaterials for Enhancement of Subwavelength Emitters and Radiative Heat Transfer**

Since 2000, electromagnetic metamaterials have attracted lots of attention because they provide us the ability to control over light and gain new physical and optical phenomena. One of the important classes of these artificial materials is called wire medium which is indeed an optically dense array of aligned wires embedded into a dielectric matrix. During my PhD studies at Aalto University in Finland, I have focused on the analysis of this medium in the control of radiative heat transfer (RHT) in thermophotovoltaic systems (TPVs) and in the enhancement of radiation from subwavelength electric and magnetic emitters at optical frequencies. I have shown that wire medium gives the possibility to attain frequency-selective and super-Planckian RHT which results in high values for both efficiency and electric output of TPVs. Furthermore, by studying the isofrequency surfaces and topological phase transitions between closed and open types of dispersion surface, I have also shown that we can achieve remarkable and broadband Purcell effect for electric and magnetic dipole moments embedded inside wire medium.

Interessierte sind herzlich eingeladen.

gez. PD Dr. Svend-Age Biehs