GCOE プログラム「機械システム・イノベーション国際拠点」
公開セミナー

GCOE プログラム「機械システム・イノベーション国際拠点」平成 20 年度公開セミナーを開催いたします．フランス，エコールセントラルパリの Sebastian Volz 先生は，ナノスケール熱工学の世界の第一人者の一人です．現在は，東大生研に滞在中であり，今回，機械系でのセミナーをいただけることとなりました．ふるってご参加いただきますようどうぞ宜しくお願い申し上げます．

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題目：Radiation and Heat Conduction at Small Space Scales

日時：2008 年 12 月 10 日（水）12:00 ~ 13:30
場所：東京都文京区本郷 7-3-1 東京大学工学部 2 号館 3 階機械系輪講室(2-31B)
地図：http://www.u-tokyo.ac.jp/campusmap/cam01_04_03_j.html

概要： Recent developments in Radiation and Heat Conduction at short space scales will be adressed. In the first place, Near-Field effects in radiation will be exposed through the several order of magnitude increase of the heat flux between two bodies separated by a few nanometer length. This very remarkable effect was first mentioned in the case of polar materials such as SiO_2, Al_2O_3 and SiC but we proved that the magnetic contribution commonly known as Foucault current and which was previously put aside, is actually predominating in the case if interacting metallic bodies.

Issues related to nanoscale thermal contact resistance are then introduced especially regarding to the phonon rarefaction and even to the wave confinement. Reasoning on the low temperatures – nanoscale thermal contact resistance leads to an original understanding of the respective contributions of the contact itself and the three-dimensional heat exchanging bodies to the thermal transfer.

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