ΑΡΙΣΤΟΤΕΛΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΕΣΣΑΛΟΝΙΚΗΣ

ΣΕΜΙΝΑΡΙΟ
ΤΜΗΜΑ ΦΥΣΙΚΗΣ

Τετάρτη 11 Μαρτίου 2015

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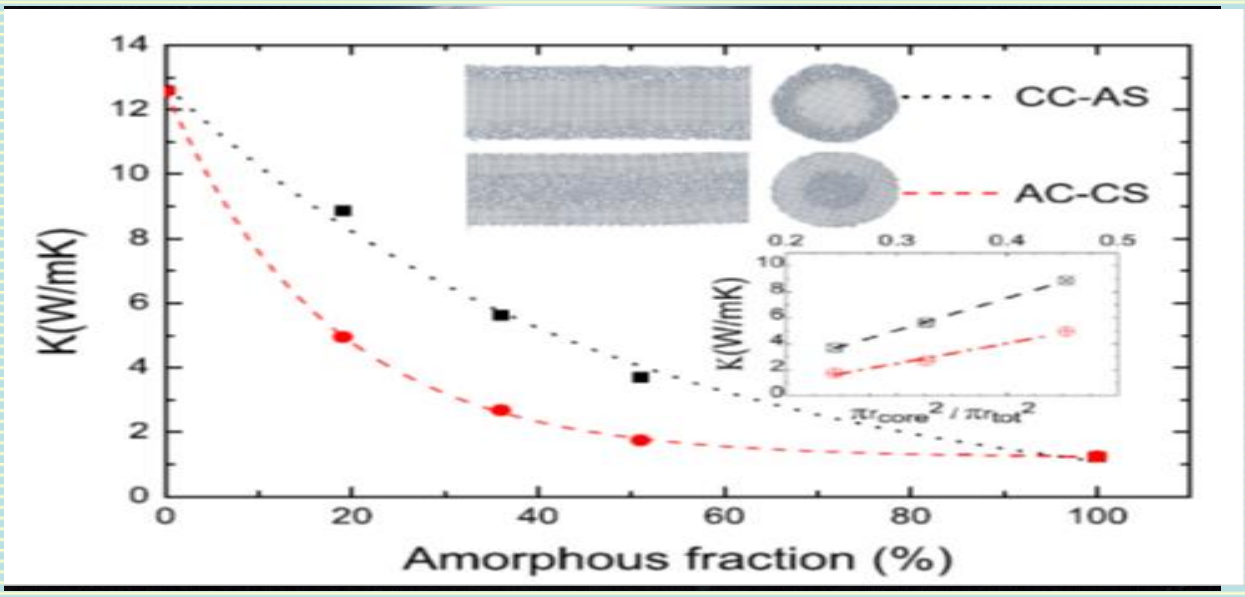
Αίθουσα A_{31}

Κύκλος σεμιναρίων

... ένα ταξίδι σύγχρονης στον κόσμο της Φυσικής

στο Τμήμα Φυσικής

Thermal Transport at the Nanoscale



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One of the most important revolutions in material science is the achievement of nanostructures fabrication. New and sometimes exotic physical phenomena have emerged, understanding and tailoring them is absolutely necessary. Yet, experimental studies are not always available or suitable at this scale. Thus, dedicated models and simulations tools are necessary for these phenomena analysis, as for such small scales, the transport of electrons and phonons controls almost all physical properties. Nevertheless, nowadays there is still a lack of theory and simulation methods, despite the huge development of the computer facilitiesUnderstanding and controlling the thermal and electronic properties of nanostructured materials and devices are of great interest in a large scope of contexts and applications: biology and medicine, aerospace, communications, computers, electronics and energy applications. The behavior and reliability of these devices strongly depend on the way the system releases heat, as excessive temperatures or temperature gradients result in their failure.

Το προφίλ του ομιλητή

Konstantinos TERMENTZIDIS is a CNRS researcher and he works at the LEMTA laboratory, at the University of Lorraine, France since 2012. He started his studies at the Aristotle University of Thessaloniki (Physics Departement and Master Material's Physics and Technology), and he obtained his PhD at the University of Vienna, at the Computational Material Science group, under the supervision of Professor Jurgen HAFNER. He worked as a postdoc fellow at INSA of Lyon and at the Ecole Centrale Paris. His main scientific interest is the theoretical and computational nanoscale heat transport. During, the last 8 years he is studying the phonon transport at nanowires and superlattices with molecular dynamics, with an important publication production in the domain. The nanoscale heat transfer is a crucial issue for a large scope of contexts and applications as biology, medicine, aerospace, communications, electronics and energy. The behavior, reliability, life and cost of these devices depend on the way the system releases heat