



UNIVERSITY OF CRETE
DEPARTMENT OF PHYSICS



QCN

CRETE CENTER FOR
QUANTUM COMPLEXITY
AND NANOTECHNOLOGY

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 2 October 2014

17:00 -18:00

3rd Floor Seminar Room

“Non-thermal fixed points: From turbulent Bose gases to high-energy physics”

Prof. Thomas Gasenzer

Ruprecht-Karls University of Heidelberg, Germany

Abstract

Many-body systems far away from thermal equilibrium can show a much wider range of characteristics than equilibrium systems. Among the wealth of possible non-equilibrium many-body configurations most interesting candidates are those which show universal behavior. A selection of such phenomena in ultracold Bose gases, characterized by specific power-laws in space and time, will be presented. Our results open a path to explore a new class of universal far-from-equilibrium dynamics well accessible in ultracold gas experiments. These phenomena are of importance far beyond the realm of cold gases, via solid-state systems to high-energy heavy-ion collisions and cosmology.