



**ΚΟΙΝΟ ΣΕΜΙΝΑΡΙΟ ΚΕΝΤΡΟΥ ΚΒΑΝΤΙΚΗΣ ΠΟΛΥΠΛΟΚΟΤΗΤΑΣ ΚΑΙ  
ΝΑΝΟΤΕΧΝΟΛΟΓΙΑΣ & ΚΕΝΤΡΟΥ ΘΕΩΡΗΤΙΚΗΣ ΦΥΣΙΚΗΣ ΚΡΗΤΗΣ /**

**JOINT CCQCN -CCTP SEMINAR**

**Tuesday, 05 May 2015**

**14:15-15:15**

**2nd Floor Seminar Room**

**An exact model for non-equilibrium phenomena**

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**Abstract**

I consider the class of AdS<sub>4</sub> Robinson-Trautman metrics and use them to explore aspects of non-equilibrium dynamics in the bulk as well as on the boundary in terms of geometric flows. This class of metrics illustrates non-trivially the validity of Penrose's inequality as gravitational radiation is emitted from bounded sources and space-time equilibrates to a black-hole state. The holographic energy-momentum tensor is also obtained and comparison with black-hole hydrodynamics is made at late times, showing that there is entropy production. [Based on joint work with K. Skenderis, arXiv:1404.4824 [hep-th]]