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

JOINT CCQCN -CCTP SEMINAR

Thursday, 08 October 2015

14:15-15:15

2nd Floor Seminar Room

Hyperscaling-Violating Lifshitz hydrodynamics from black-holes

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Abstract

Non-equilibrium black hole horizons are considered in scaling theories with generic Lifshitz invariance and an unbroken U(1) symmetry. There is also a special form of hyperscaling violation associated with a non-trivial conduction exponent. The boundary stress tensor is computed and renormalized and the associated hydrodynamic equations derived. Upon a non-trivial redefinition of boundary sources associated with the U(1) gauge field, the equations are mapped to the standard non-relativistic hydrodynamics equations coupled to a mass current and an external Newton potentials in accordance with the general theory of [arXiv:1502.00228]. The shear viscosity to entropy ratio is the same as in the relativistic case.