



**ΚΟΙΝΟ ΣΕΜΙΝΑΡΙΟ ΚΕΝΤΡΟΥ ΚΒΑΝΤΙΚΗΣ ΠΟΛΥΠΛΟΚΟΤΗΤΑΣ ΚΑΙ
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JOINT CCQCN -CCTP SEMINAR**

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15:00-16:00

2nd Floor Seminar Room of the physics department

Effective holographic theories of thermoelectric transport

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Abstract

In this talk, I will summarize recent progress in the description of thermoelectric transport using gauge/gravity duality. I will first review thermoelectric transport in hydrodynamics, where momentum conservation implies infinite zero-frequency conductivities. By a change of basis of the conserved currents, a universal, finite conductivity can be extracted. It can be computed holographically. I will discuss its low-temperature scaling in terms of critical exponents characterizing time and space anisotropy and anomalous dimensions for the free energy and conserved current. When momentum is almost conserved, the zero-frequency delta functions broaden into Drude-like peaks. A holographic computation precisely identifies the redistribution of the low-frequency spectral weight between two contributions originating from the non-conservation of momentum and intrinsic dissipation respectively.

