



**ΚΟΙΝΟ ΣΕΜΙΝΑΡΙΟ ΚΕΝΤΡΟΥ ΚΒΑΝΤΙΚΗΣ ΠΟΛΥΠΛΟΚΟΤΗΤΑΣ ΚΑΙ
ΝΑΝΟΤΕΧΝΟΛΟΓΙΑΣ & ΚΕΝΤΡΟΥ ΘΕΩΡΗΤΙΚΗΣ ΦΥΣΙΚΗΣ ΚΡΗΤΗΣ /
JOINT CCQCN -CCTP SEMINAR**

Thursday, 17 March 2015

14:00-15:00

2nd Floor Seminar Room

An effective microscopic description of black brane thermodynamics

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Abstract

I will construct effective large- N microscopic field theories which provide a description of a general class of black branes near extremality. In the regime where the gravity description is valid, the field theory is strongly coupled and exhibits a scaling regime. With a simple application of the virial theorem, the microscopic theory can be used to estimate the parametric form of the black brane thermodynamics, including the correct strong-coupling N -dependence. The class of theories is general enough to encompass black branes in string theory, where they can be derived from SYM. In these cases it is possible to estimate phase boundaries and make predictions for a large class of operators at finite temperature.

