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TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS Seminar

Title : Thermal equivariance and its applications

Speaker : Mukund Rangamani, University of California, Davis, USA

Date : Thursday, December 14, 2017

Time : 2:30 PM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : I will describe how techniques from topological field theory and equivariant cohomology find a role in physical problems. I will define the notion of thermal equivariance which will involve gauging thermal diffeomorphisms, and argue that these constructions naturally lead to entropy being interpretable as a Noether current. I will outline an application to constructing dissipative hydrodynamic effective actions, reproducing previously known facts about the admissible constitutive relations, and providing a prediction for the nature of hydrodynamic fluctuations.