

Seminar

Critical Phenomena in the Quantum Hall Effect

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Phase transitions involving quantum Hall phases are a rich set of phenomena that involve an interplay of topology, correlations and disorder. Extensive experimental studies have led to elegant conjectures concerning the universality and dynamic scaling at these quantum critical points. However, their theoretical treatment remained challenging due to the necessity of accounting for both interactions and disorder. I will discuss the recent theoretical advancement made in this direction using dual theory of composite-fermions, where a weakly interacting description emerges as a starting point. I will also elucidate the conditions under which the aforementioned conjectures arise and outline future directions.

Tuesday, Sep 26th 2023

4:00 PM (Tea / Coffee 03.45 PM)

Auditorium, TIFR-H