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NITheCS WEBINAR:

Low dimensional Quantum gravity using Virasoro TQFT

Sounak Pal (Indian Institute of Technology, Gandhinagar, India)

Friday, 27 September 2024 | 14h00 – 15h00 SAST

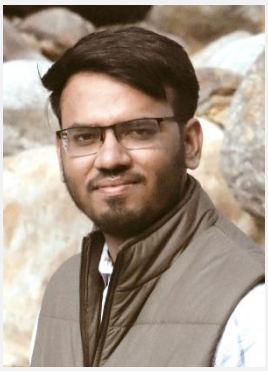
Attend online or in Seminar Room 1020, Merensky Building, Stellenbosch University

ABSTRACT

I will discuss some aspects of 2d and 3d quantum gravity in the language of topological quantum field theory (TQFT). Recent developments include calculating various gravity partition functions in AdS3 using descriptions of Liouville conformal field theory (CFT). We sort of extend this formalism for N=1 super Liouville case and use super-Teichmüller TQFT to compute various partition functions of different on-shell manifolds (admitting Hyperbolic metric with constant negative Ricci scalar). I will also touch upon some aspects of quantum chaos and integrable irrelevant deformations. I will also discuss some future extensions possible at the end.

BIOGRAPHY

Sounak Pal is a student of IIT Gandhinagar, pursuing his PhD under Prof Arpan Bhattacharyya. He completed his MSc at RKMVERI (Ramakrishna Mission Vivekananda Educational and Research Institute) and BSc at Ramakrishna Mission Residential College in Narendrapur, India. Currently he is interested in modern scattering amplitude techniques, Low dimensional perspectives of quantum gravity and TQFT. He is also looking to work on flat space holography and celestial scattering amplitudes.



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