



INDIAN STATISTICAL INSTITUTE

Theoretical Statistics and Mathematics Unit, Kolkata

SEMINAR

Date: November 06, 2023, Monday
Time: 4:15 PM

VENUE:

L-infinity

(5th Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

TITLE:

KMS states on the C^* -algebra of a Fell bundle over an étale groupoid

SPEAKER:

Md Amir Hossain

IISER Bhopal

ABSTRACT:

Let A be a Fell bundle over a locally compact, Hausdorff, second countable G and $C^(G, A)$ denote its full C^* -algebra. In this talk, we define $C^*(G, A)$ without using Muhly--Williams disintegration theorem and show that our definition of the algebra $C^*(G, A)$ is the same as Muhly--Williams' one. Then we prove an integration-disintegration theorem for KMS states over $C^*(G, A)$ for certain real dynamical system by establishing a one-to-one correspondence between such states and certain measurable fields of states on the C^* -algebras of the Fell bundles over the isotropy groups. This correspondence is established for states on $C^*(G, A)$ also under a commutativity hypothesis. While proving this main result, we construct an induction C^* -correspondence between $C^*(G, A)$ and the C^* -algebra of the isotropy Fell bundle. And finally, we shall apply our result to some concrete situations such as (twisted) crossed product of groupoids and matrix algebras. This is a joint project with Rohit Dilip Holkar.*

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