



Physical Sciences Seminar

Stochastic differential equations for Lie group valued moment maps

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The classical work of Pitman in probability theory establishes a surprising link between the Brownian motion in dimensions one and three. This relation was interpreted by Biane-Bougerol-O'Connell in terms of the Duistermaat-Heckman measure from symplectic geometry.

We generalize these constructions for the case of Brownian motion on curved three dimensional spaces: the 3-sphere and the hyperbolic space. The case of the hyperbolic space is intimately related to the quantum group $U_q(\mathfrak{sl}(2))$. Our method is a combination of analytic results and numerical experiments which allowed to rule out some of the scenarios.

Friday, November 22, 2019 02:00pm - 03:00pm

IST Austria Campus Heinzl Seminar Room / Office Bldg West (I21.EG.101)



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