

Institute for Applied Mathematics, Bonn University

Oberseminar Stochastik

Thursday, 14 July 2022, 16:30

Lipschitz-Saal (LWK 1.016)

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Stochastic quantisation of Yang-Mills in 3D

Yang-Mills theories are a core component of the Standard Model where they are used to describe fundamental forces. However, a rigorous study of Yang-Mills theories at the quantum level is still lacking, even in the cases of 2- and 3-dimensional space-time. In this talk, I will review recent works which aim to make progress on the study of such theories using stochastic quantisation. I will show how the associated stochastic quantisation equation can be renormalised, paying special attention to how symmetries are used to show that renormalisation does not break gauge covariance.

Based on [arXiv:2201.03487](https://arxiv.org/abs/2201.03487), which is a joint work with Ajay Chandra, Martin Hairer, and Hao Shen.