

# Seminário de sistemas dinâmicos e estocásticos

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## Integration by Parts and the KPZ Two-Point Function

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### Resumo:

In this talk we apply the integration by parts formula from Malliavin calculus to establish a key relation between the two-point correlation function of the Kardar-Parisi-Zhang (KPZ) Fixed Point and the location of the maximum of an Airy process plus a Brownian motion with a negative parabolic drift. Integration by parts also allows us to deduce the density of this location in terms of the second derivative of the variance of the KPZ fixed point. We further develop an adaptation of Malliavin-Stein method that implies asymptotic independence with respect to the initial data.

**Data:** 25/06/2021 - 11:00 (GMT-3) - Via Zoom - Meeting ID: 919 7090 8458  
- Passcode: 727948

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