



**European Research Council**  
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**Università di Roma Tor Vergata**  
*Dipartimento di Fisica*



## ***Seminar***

Wednesday, 8 June 2016 - h. 16:00

*Sala Struttura della Materia (Dipartimento di Fisica)*

**Prof. Alexei A. Mailybaev**

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**“Spontaneously stochastic solutions  
in turbulence models”**

### ***Abstract***

We study the inviscid limit of the Sabra shell model of turbulence, along with its representation as a nonlocal conservation law in one space dimension. We present a theoretical argument and a detailed numerical confirmation showing that a classical deterministic solution before a finite-time blowup must be continued as a spontaneously stochastic process after the blowup, representing a unique physically relevant description in the inviscid limit. We show that the spontaneous stochasticity of the velocities after singularity formation is due to ordinary deterministic chaos in a renormalized system.

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