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SEMINAR OF NUMERICAL ANALYSIS

➢ **FRIDAY NOVEMBER 3RD, 2017 - ROOM MA A3 30 - 15h15**

Prof. Shi Jin (University Wisconsin-Madison, USA) will present a seminar entitled:

« Uncertainty quantification for multiscale kinetic equations with uncertain coefficients »

Abstract:

In this talk we will study the generalized polynomial chaos-stochastic Galerkin (gPC-SG) approach to kinetic equations with uncertain coefficients/inputs, and multiple time or space scales, and show that they can be made asymptotic-preserving, in the sense that the gPC-SG scheme preserves various asymptotic limits in the discrete space. This allows the implementation of the gPC methods for these problems without numerically resolving (spatially, temporally or by gPC modes) the small scales. Rigorous analysis, based on hypocoercivity of the collision operator, will be provided for general kinetic equations to prove uniform convergence toward the local or global equilibrium, and the spectral convergence of the gPC-SG method.

Lausanne, October 3rd, 2017

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