

UNICAMP – IMECC
Departamento de Matemática

Seminário de Sistemas Dinâmicos e Estocásticos

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Título: Nonlinear generalized functions,
recent developments and applications

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Resumo. We recall the origin of nonlinear generalized functions and of Schwartz Impossibility result. Then we give some examples of applications to nonlinear problems arising in physics and engineering, such as nonlinear elasticity, QFT (dark energy, infinities), in calculations on black holes (M. Kunzinger, R. Steinbauer), and cosmic strings (J. Vickers). This shows the relevance of the nonlinear generalized functions in concrete applications. We present two trends of work being developed at USP with J. Aragona and S. O. Juriaans:

1. on Hausdorff locally convex topological subalgebras of the algebra of generalized functions,
2. and the study of deep offshore petroleum extraction.

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