LadHyX/LMS Seminar – May 5, 11:00, – Room Jean Mandel (LMS)

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Nonlocal modeling, analysis and computation: some recent development

Nonlocality has become increasingly noticeable in nature. The modeling and simulation of its presence and impact motivate new development of mathematical theory. In this lecture, we focus on nonlocal models with a finite horizon of interactions, and illustrate their roles in the understanding of various phenomena involving anomalies, singularities and other effects due to nonlocal interactions. We also present some recent analytical studies concerning nonlocal operators and nonlocal function spaces and discuss how they facilitate the development of robust numerical algorithms.