Mathematics, Statistics, and Computer Science   **@ UIC**

Analysis and Applied Mathematics Seminar

Numerical methods with the aid of analysis

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Abstract: Numerical methods for the solution of initial value problems in partial differential equations have made enormous progress over the past decades. The needs in mathematical modelling of efficient numerical algorithms as an alternative to classical methods of applied mathematics have remarkably increased. In this respect, there are many of developments of numerical methods with aid of analytical methods to understand the mechanism and physical/mathematical structures of model problems.

I will present recent developments of numerical methods and computations for physical models emerging from geophysics, fluid dynamics, and electromagnetism with aid of analysis. More precisely, we mainly focus on the numerical methods for geophysical fluid model (primitive equations), scattering problem in layered media, and singularly perturbed problems.

Monday, November 21 at 4:00 PM in SEO 1227