

Department of Applied and Computational Mathematics and Statistics Colloquium



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Partitioned algorithms for evolutionary partial differential equations

The essential problems of estimation of the penetration of a plume of pollution into groundwater and remediation after such a penetration are that (i) the coupled problem in both subregions are inherently time dependent, (ii) the different physical processes suggest that codes optimized for each subprocess need to be used for solution of the coupled problem, and (iii) the large domains plus the need to compute for several turnover times for reliable statistics require calculations over long time intervals.

Partitioned algorithms solve coupled evolutionary partial differential equations by successively solving the subphysics problems.

We present results on partitioned time-stepping methods for magnetohydrodynamics, fluid-fluid and fluid-structure interactions.

Friday, November 30, 2018

4:15 PM – 5:15 PM

127 Hayes-Healy Center

Colloquium Tea 3:45 PM to 4:15 PM 101A Crowley Commons Room