Center for Scientific Computation And Mathematical Modeling

University of Maryland, College Park

A Program Announcement
"High Frequency Wave Propagation"
September 19-22, 2005

Organizing Committee:

François Castella - Björn Engquist - Dennis Healy - Olof Runborg - Eitan Tadmor

SCIENTIFIC BACKGROUND

High frequency wave propagation is a classical example of applied mathematics dating back to the development of geometrical optics.

Today it is a rich field with a variety of applications in electromagnetic scattering, seismology, photonics, quantum physics and medical imaging. The computational challenges originate in the need of resolving short wave length signals over large domains.

The mathematical theory is linked to microlocal analysis, nonlinear partial differential equations, Wigner transforms, semi-classical analysis and analysis of fast algorithms in numerical analysis.

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