Channel Islands
CALIFORNIA STATE UNIVERSITY
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INSTRUCTIONALLY RELATED ACTIVITIES
CHANNEL ISLANDS

Undergraduate Math and Physics Seminar

Central Schemes for Nonlinear PDEs: Implementation, Applications, and Visualization

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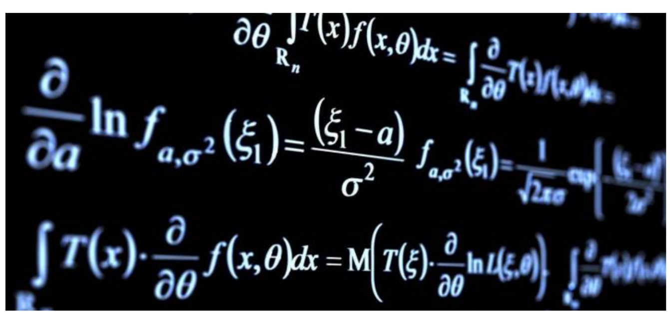
Abstract:
Nonlinear PDEs are widely used for modeling physical phenomena and to formulate and solve problems in image processing, finance, or traffic flow. The solutions of these models, however, are characterized by steep gradients that often lead to the onset and propagation of discontinuities. Numerical methods based on central differencing offer an efficient black-box approach for detecting and evolving these discontinuous solutions and are relatively simple to implement. This talk will present an overview of central schemes for nonlinear PDEs along with several examples of fluid simulations that demonstrate the versatility and adaptability of this approach.



MathhWhen: Monday, February 20, 2017, 4:30-5:20 pm
Where: CSUCI, Del Norte 1530