Mary F. Wheeler

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TICAM, The University of Texas at Austin
CRPC Annual Meeting

CSM Accomplishments

Applications

- Modeling bays and estuaries
- Petroleum reservoir engineering and groundwater remediation

Mathematical and computational science

- New Generation Framework
- Computer Science Infrastructure
- Solvers
- Discretizations (Multiblock)

Leveraged Funding

- CRPC
- NSF
- DOE (ACTI, PICS)
- DOD
- Industrial Affiliates

CSM Research Scientists

- Mary F. Wheeler, Director
- Steve Bryant, Associate Director
- Todd Arbogast
- Srinivas Chippada
- Clint Dawson
- Carter Edwards
- Sue Minkoff
- Manish Parashar
- Ivan Yotov

CSM Graduate Students

- Joe Eaton
- Robert Kirby
- Qin Lu
- Monica Martinez
- Beatrice Riviere
- Sujatha Sagiraju
- Xiaohong Wang
- Jonas Gournay
- Jiachuan Wang
- Aura Araque

Graduate Students Completed

Spring 96-97

- Carter Edwards
- Ivan Yotov
- Carol San Soucie Woodward
- Frank Saaf
- Hector Klie
- Monica Martinez (pending)

Conclusions

- significant progress towards unifying framework
- status of the framework

- Initial prototype of framework completed and available to industry for testing or further development

  Keyword input and output

  Memory management

  Message passing

  Dynamic load balancing

- Interface for two and three phase simulations, EOS compositional module in progress

- Fully implicit solvers

- Multiblock algorithm for non-matching grids developed-initial parallel implementation completed

- Results to be presented at SPE Reservoir Symposium in Dallas, June 1997

Conclusions (cont.)

Where we are going

- Porous Media

  - efficient tool for reservoir management/ characterization which will integrate general geometry, compositional flow, 4D seismic, geostatistics, streamtubes, interactive steering

- Bay and Estuaries

  - time stepping, mortar spaces