

Department of Mathematical Sciences Colloquium

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Finite Element Models in Civil Engineering

The engineering community is moving from two-dimensional to three-dimensional modelling of reality. The classical analysis, such as mechanical, thermal and many others, is being replaced by coupled analysis where several phenomena are taken into account simultaneously. This results into significant demands on finite element technology and computers. One of the obvious difficulties is a large number of unknowns in finite element models. The systems of algebraic equations have to be solved by means of special methods, such as domain decomposition methods (DDM). Application of parallel computers is usually necessary. Some domain decomposition methods will be mentioned and briefly described, and parallel implementation will be discussed. The performance of such methods will be demonstrated on several academic as well as real-world problems.

**Friday, March 7, 2008 at 3 pm in Bell Hall 143
The University of Texas at El Paso**

Refreshments will be served in front of the colloquium room, 15 minutes before the start of the colloquium.

For further information, please contact Dr. Pavel Solin, Bell Hall 220. Phone: (915) 747-6770, email: solin@utep.edu.