

NASA SBIR/STTR Technologies



Proposal No. T5.01-9954

Benchmark Numerical Toolkits for High Performance Multiphysics Computing

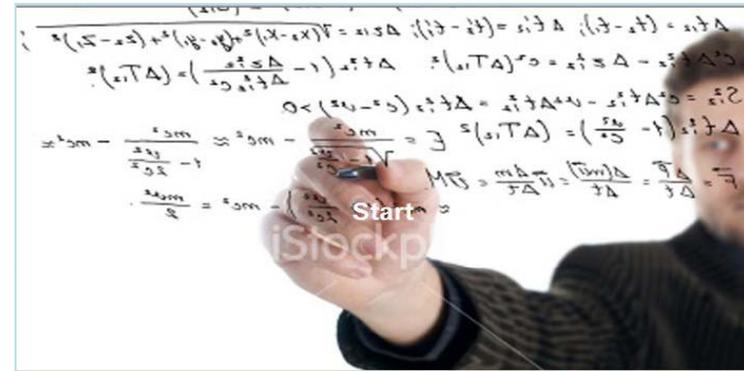
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Identification and Significance of Innovation

- GUI- based portal for numerical benchmark testing
- CoBi serves as computational engine to portal
- Portal serves as intuitive interface between CoBi and user
- Allows user to investigate/analyze linear algebra packages for specific problem types

Expected TRL Range at the end of Contract (1-9): 3



Technical Objectives and Work Plan

- Review of existing benchmarks and new problem selection
- Technical specification for new test problems
- Adaption of toolkits for automated benchmark problem generation
- Computational benchmark simulations
- Web-based benchmark generation and test problem demonstration

NASA and Non-NASA Applications

Scientists and engineers in any discipline who perform numerical analysis can use the portal to investigate the behavior of linear algebra packages (solvers, eigenvalue analyzers, etc.) in regard to efficiency, scalability, etc.

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NON-PROPRIETARY DATA