



ITEM OF INTEREST

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Small Business Technology Transfer project paying off for Acoustic and Seismic Signature Modeling

Working within the STTR structure, Dartmouth College, Sound Innovations and CRREL, have been exploring methodologies of applying controls engineering methods to the creation of accurate reduced order models of acoustic and seismic signals.

These signals propagate through (simulated) real-world environments with millions of 'output' locations, as those environments are modeled by high performance computers running finite-difference computations over hours of clock time.

The problem reduces to that of identifying the small number of outputs that most accurately model the behavior of the complete system, and then of mapping the response of those outputs accurately to the remaining millions of outputs.

One of the projects primary objectives is to reduce model creation and exercise to minutes on a laptop. The 'superstable' pulse-response model and 'hybrid' model, developed under the STTR, achieve these goals. Sound Innovations' Dr. Richard Darling, recently briefed the results at CRREL to include examples showing the project's current status and the potential for further development.

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