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Smart Structures and Materials 1993: Mathematics in Smart Structures

Editor: H. T. Banks, North Carolina State Univ.

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Smart Structures and Materials 1993: Smart Sensing, Processing, and Instrumentation

Editor: Richard O. Claus, Virginia Polytechnic Institute
and State Univ.

Partial contents: Active evanescent coupler for smart processing. Rare-earth iron-compound (Terfenol)-based optical phase modulator/magnetometer for use in fiber optic smart-structure sensors. Sapphire-optical-fiber-based interferometric sensors for high-temperature environmental applications. Fiber optic sensors for dynamic wave propagation studies. Impact location and energy prediction of simulated micrometeorite strikes. Neural network/expert system-hybrid which identifies untrained damage. Detection of the onset of damage using an extrinsic Fabry-Perot interferometric strain sensor (EFPI-SS). Frequency-multiplexed multiple-beam optical position detector using phase detection. Smart-structure interface issues and their resolution: Bragg grating laser sensors and the 'optical synapse'. Neural network damage detection in a bridge element. Smart-skin structures for identifying and locating laser irradiation. Development of an optical fiber time-domain sensor for monitoring static and fatigue strains in composite laminates. Intelligent civil structures efforts in Vermont: an overview. (Plus 40 more papers)

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Editor: Nesbitt W. Hagood, Massachusetts Institute of
Technology

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Editor: Vijay K. Varadan, The Pennsylvania State Univ.

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