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Suzanne L. Weekes* (sweekes@wpi.edu), 100 Institute Road, Worcester, MA 01609. *Numerical and Analytic Study of Dynamic Materials.*

An overview of work on wave propagation through dynamic materials will be given. Dynamic materials are spatio-temporal composites - materials whose properties vary in space and in time. Mathematically, we formulate the problem as linear, hyperbolic partial differential equations with spatio-temporally varying coefficients. The variability in the material constituents leads to effects that are unachievable through static (spatial-only) design. For example, with dynamic laminates we are able to screen portions of the material from the effects of a wave disturbance. With checkerboard geometry in space-time, we create pulse compression and energy accumulation, and recent work shows that these effects are structurally stable. (Received September 25, 2018)