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**James V Lambers\*** ([james.lambers@usm.edu](mailto:james.lambers@usm.edu)), School of Mathematics and Natural Sciences, The University of Southern Mississippi, 118 College Dr #5043, Hattiesburg, MS 39402. *Krylov Subspace Spectral Methods for Problems in Acoustics*. Preliminary report.

This talk provides an overview of the application of techniques for approximating bilinear forms involving matrix functions to PDEs of interest in acoustics. Featured work includes (1) the use of these to measure the sensitivity of solutions of PDEs, (2) the application of Krylov Subspace Spectral (KSS) Methods to the parabolic equation for acoustic pressure, and (3) KSS methods for wave propagation problems featuring periodic media and shock waves. (Received September 17, 2019)