

Abstract Submitted
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Nonlinear acoustic propagation of launch vehicle and military jet aircraft noise KENT L. GEE, Brigham Young University — The noise from launch vehicles and high-performance military jet aircraft has been shown to travel nonlinearly as a result of an amplitude-dependent speed of sound. Because acoustic pressure compressions travel faster than rarefactions, the waveform steepens and shocks form. This process results in a very different (and readily audible) noise signature and spectrum than predicted by linear models. On-going efforts to characterize the nonlinearity using statistical and spectral measures are described with examples from recent static tests of solid rocket boosters and the F-22 Raptor.

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