

Abstract Submitted  
for the TSS10 Meeting of  
The American Physical Society

**Acoustic Analog to Quantum Mechanical Level-Splitting** SHAWN HILBERT, Texas Lutheran University — One difficulty in teaching quantum mechanics is the lack of classroom demonstrations. To sidestep this issue, analogies can provide an enlightening alternative. Acoustics governance by the same time-independent wave equation as quantum mechanics supports its use in such analogies. This presentation examines one such analogy for an infinite potential well with a delta potential perturbation. The physical acoustic system consists of continuous sound waves traveling in a pair of tubes which are separated by a variable diaphragm. The level-splitting nature of the quantum system can be mimicked in the acoustic system.

Shawn Hilbert  
Texas Lutheran University

Date submitted: 19 Feb 2010

Electronic form version 1.4