

1023-J1-162 **Itai Seggev*** (iseggev@olemiss.edu), Lewis Hall 108, The University of Mississippi, University, MS 38677. *Quantum Mechanics: A Different Spin on Linear Algebra*.

Quantum Mechanics provides a fascinating and powerful application of all the main ideas of linear algebra, especially diagonalization. Despite the sensationalism often surrounding quantum mechanics, the basic physical concepts needed to introduce examples using spin systems are quite simple. These provide a meaningful—and for the students, enjoyable—utilization of the spectral theorem for Hermitian matrices and the associated functional calculus. In this talk I will give a self-contained one-slide introduction to quantum mechanics, describe spin systems and their Schrödinger Equation $\psi(t) = e^{-iHt}\psi(0)$, and relate feedback from students on homework problems on this topic. (Received August 15, 2006)