ALGEBRA SEMINAR

Using Lie algebras to approach anharmonic oscillators, Part I

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ABSTRACT: I will give several talks on quantum harmonic and anharmonic oscillators. The first will be to introduce the basic mechanics and physics of oscillators in one and several dimensions. After this I will explain what an anharmonic oscillator is. I will construct a family of Lie algebras and show how to use them to obtain perturbed eigenvalues of anharmonic oscillators. In the meantime I will also show how to work with the Weyl algebra, and its everpresent status in quantum physics and abstract algebra.

Monday, March 16, 2009, 1:40 – 2:30 pm, Wachman 617