

## Eugene Kogan

## **Bar-Ilan University**

## Decay of a discrete state resonantly coupled to a continuum

A simple quantum mechanical model consisting of a discrete level Resonantly coupled to a continuum of finite width, where the coupling can be varied from perturbative to strong, is considered. The particle is initially localized at the discrete level, and the time dependence of the amplitude to find the particle at the discrete level is calculated without resorting to perturbation theory. The deviations from the exponential decay law, predicted by the Fermi's Golden Rule, are discussed.

> Monday **February 5, 2007** Starts at 12:15 PM Coffee at 12:00 PM Physics Conference Room, SB B326