

## **SOCIETY OF PHYSICS STUDENTS (SPS) EVENT**

# **Keeping a Magnetic Resonance Imager Knocking**

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A magnetic resonance imager is perhaps one of the more complex pieces of diagnostic equipment found in a hospital. Keeping it operating properly (knocking) can be a challenge because of its complexity and the pressure of every hour down, equates to the loss of one thousand dollars of revenue. This talk focuses on the development of a dynamic phantom or standard for functional magnetic resonance imaging (fMRI), a relatively new imaging technique capable of identifying thought and motor control centers of the brain. The phantom is based on the molecular alignment of dipoles in a polar liquid using an electric field. The electric field aligns the molecules and changes the spin-spin hyperfine interaction between hydrogen nuclei in the polar molecule. Theory, experiments, phantom development, and imaging results will be presented.

**WHERE/WHEN**

**SR - 151/Noon - 1pm**

**Thursday, February 28<sup>th</sup>, 2013**

**(Pizza and Soda are provided!)**