Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Development of a Mossbauer Spectrometer JUSTIN KING, MICHAEL VINEYARD — A Mossbauer spectrometer is being developed for use in an undergraduate experimental physics course and for research projects. A Co-57 provides 14.4-keV gamma rays which are detected with a krypton gas proportional counter. The source is mounted on an electromechanical drive that is operated in constant velocity mode using a Mossbauer drive controller. A circuit is being developed to operate the drive in constant acceleration mode so that Mossbauer spectra can be acquired with a multi-channel analyzer in a computer. Curricular materials are also being developed to use the Mossbauer spectrometer in the experimental physics course to measure changes in nuclear energy levels such as isomer shifts, hyperfine splitting, and quadrupole splitting due to an external magnetic field.

Justin King

Date submitted: 16 Jun 2005

Electronic form version 1.4