

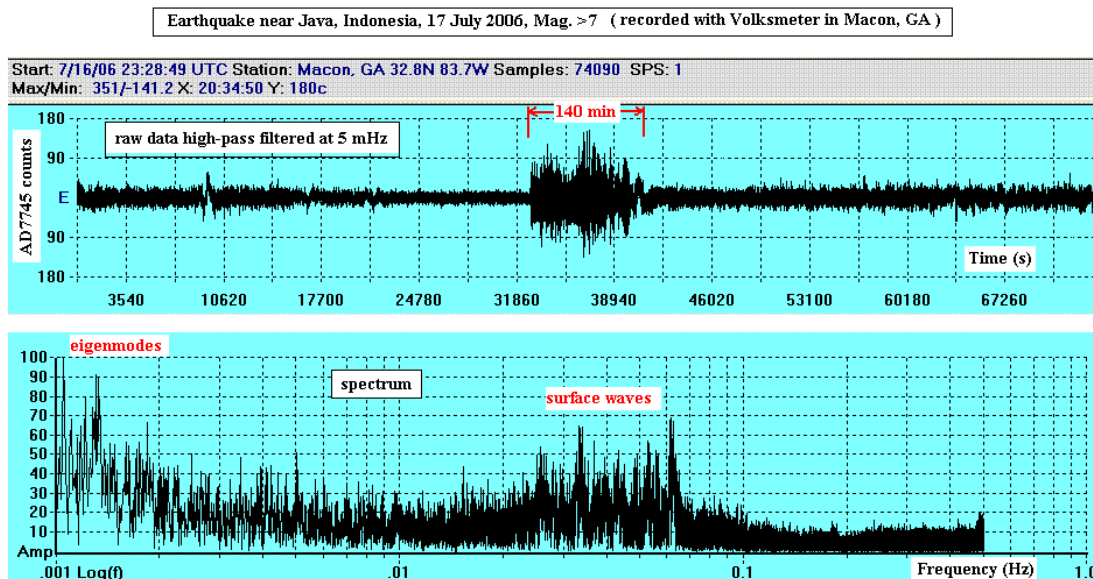
# Experimental Physics Seminar

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Wednesday 8/30/2006, 4:30pm  
Willet Science Center 101

## State-of-the-art Digital Seismograph



One of the instruments to be placed next year on the seismic pier of Mercer's new Science and Engineering building will be the first bona fide fully-digital seismograph. The Volksmeter is a conventional pendulum (horizontal) seismometer that uses Analog Devices' new, award-winning integrated circuit (AD7745) that is a capacitance to digital converter (CDC). It monitors a symmetric differential capacitive (SDC) displacement sensor array -- one form of the first fully differential capacitive sensor. The SDC-CDC package is configured to operate in a different mode than commercial seismometers. By recording the pendulum's position, rather than its velocity, tilt response of the Volksmeter opens a new window to the world of inexpensive instrumentation. It provides a simple means to study low frequency spectral components of oscillatory type, called 'earth hum.' Examples of benefit from these novel features will be provided, along with some history of the Volksmeter's evolution from a fundamental research program.

*Please join us for light refreshments at 4:15pm outside WSC 109.*