

AdLab Experimental Repertoire

High temperature superconductor critical parameters: current, temperature, and magnetic field

Helium 3 gas time projection chamber (TPC): is fissile material smuggling into NY harbor?

SQUID: superconducting quantum interference device to measure $e/h\bar{c}$

Black-body radiation from a glowing wire: Measuring Planck's constant, $h\bar{c}$

Measuring the 2.2 microsec lifetime of stopping muons

Landau distribution of dE/dx energy loss of a charged particle traversing water & Cherenkov detection

Entangled photons...how does a boson "know" what where his sister went?

Hall effect: characterizing magnetic behavior of novel materials using a 4-point probe

One Photon at a time: diffraction pattern of a single particle with itself

We're bathed in radioactive background...let's measure it!

Chaos: characterizing the fractal behavior of a dripping faucet, and satellite drops too

Pulsed Nuclear Magnetic Resonance (NMR): frequency shift in your own blood

Electron Spin Resonance (ESR)

Optical Pumping of Rubidium: observing the atomic level crossing

Measuring the thermal conductivity of a gas using high vacuum systems

X-ray diffraction: measuring the space between atoms in a crystal

Faraday rotation of the plane of polarization of a laser beam traversing a medium

Sonoluminescence...can low energy sound make light in collapsing microbubbles???

Monitoring the ground level cosmic ray flux...is it changing with the climate?

Analyzing Z+jet data from the CMS detector of the Large Hadron Collider