



Environmental Glove Boxes

Used to prepare samples in a high-purity environment other than atmosphere.

FTIR Spectrometer

Measures vibrational properties of samples. Used for research of solids, liquids and molecular matter.



Chrystal Preparation Lab

Used to prepare unique crystals by high-temperature melting and synthesis. Uses high temperature furnaces and glove boxes.



Baker Observatory

Near Marshfield, MO. Used for research and public outreach. Baker Observatory houses several large telescopes.

Plane Wave Instruments CDK20 20" Telescope

Located at Baker Observatory. Used for research and public outreach.



Scanning Electron Microscope

Used to image surface of objects near the atomic scale. Imaging is done by scattering electrons from a surface. Used for research by students and faculty.



SQUID Instrument

Used principally for research. It measures magnetism of materials compounds, and substances. Can reach down to 4 Kelvin, which is just above absolute zero in temperature.



X-Ray diffractometers

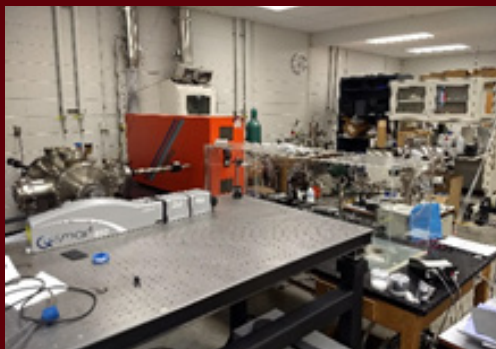
Used to determine crystal structure of materials compounds, and substances at the atomic scale. Analysis is made by scattering x-rays from sample. Used for research by students and faculty.



Raman Photoluminescence Spectrometer

Measures vibrational properties of samples. Used for research of solids, liquids and molecular matter.

Instrumentation in the PAMS Department



Pulsed Laser Deposition System

Used to prepare high-quality thin films by physical deposition. Highly versatile; can deposit ceramic, metallic, semiconducting, magnetic, etc. films.

Atomic Force Microscope

Used to image surfaces of samples at the atomic scale. Uses the principle of raster scanning and the probe's response to the forces imposed by the surface atoms.



Walk-In Fume Hoods

Used to work on samples in a well protected and ventilated environment.

Fluorometer

Measures fluorescing radiation from samples.

Used for research of carbon-based or related compounds.



Chemical Vapor Deposition System

Used to prepare high-quality thin films that cannot be prepared by physical deposition.



Thermal Evaporator

Used to prepare thin films by physical deposition.

Mostly used to deposit metallic thin films.



ESPEC Environmental Chamber

Used to study samples in hot and/or high humidity environments.



GPU Computational Server

Used for computational research of inorganic and organic materials.



High Temperature Furnaces

Used for synthesis of various compounds and materials at high temperatures and, in some cases, in a controlled atmosphere.



ARBIN IV Cyclometry Instrument

Used to study performance of batteries.