NATIONAL HIGH MAGNETIC FIELD LABORATORY

Florida State University
1800 East Paul Dirac Drive
Tallahassee, Florida 32310
nationalmaglab.org

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MagLab Summer Exploration Series
Week 6 Links

Hey everyone! Before we get started let's get familiar with superconductors, with Science in a Sentence: Making Better Superconducting Wires. Once you've been introduced to the subject, take a crash course in Superconductivity 101. Then follow the history of the past 100 years of superconductivity, and the current trends of these materials in an Intro to High-Temperature Superconductors.

One of the most important aspects to Superconductivity as we study it now, is the role of liquid helium. Get introduced to these low temperature materials in Cryogenics for English Majors.

Then take some time to tour our low temperature facilities, starting in the Cryogenics Lab where we study cryogens like liquid helium and liquid nitrogen. Next make a stop in the Millikelvin Facility, one of the coldest labs in the entire world.

So what's the big deal about cold research? Read about the quantum effect and freaky fermions in this feature about Low-Temperature Physics. Then listen to MagLab user Shanti Deemyad Take Two for Science as she describes her research in low temp and high pressure.

One of the more exciting aspects of superconductivity is their use in transportation taking advantage of the Meissner Effect. Watch this Science Demos: Maglev Trains video to see a toy train demonstrate magnetic levitation, the Meissner Effect and magnetic flux trapping.

Superconductivity is on the edge of scientific breakthroughs, with frequent discoveries changing the landscape. Find out more about one of our own discoveries in a BiSCCO Breakthrough.

Any questions? Email Carlos R. Villa.