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Far-infrared Beamline at the Canadian Light Source. JIANBAO ZHAO, BRANT BILLINGHURST, Canadian Light Source Inc. — Far-infrared is a particularly useful technique for studies on lattice modes as they generally appear in the Far-infrared region. Far-infrared is also an important tool for gathering information on the electrical transport properties of metallic materials and the band gap of semiconductors. This poster will describe the horizontal microscope that has recently been built in the Far-infrared beamline at the Canadian Light Source Inc. (CLS). This microscope is specially designed for high-pressure Far-infrared absorbance and reflectance spectroscopic studies. The numerical aperture (0.5) and the long working distance (82.1 mm) in the microscope are good fits for Diamond Anvil Cell (DAC). The spectra are recorded using liquid helium cooled Si bolometer or Ge:Cu detector. The pressure in the DAC can be determined by using the fluorescence spectrometer available onsite. The Far-infrared beamline at CLS is a state-of-the-art synchrotron facility, offering significantly more brightness than conventional sources. Because of the high brightness of the synchrotron radiation, we can obtain the Far-infrared reflectance/absorbance spectra on the small samples with more throughput than with a conventional source. The Far-infrared beamline is open to users through peer review.

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