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Design and performance of the ALS diagnostic beamline

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The design and operation of an imaging beamline at the Advanced Light Source for providing diagnostic information on the electron beam for the accelerator and experimental groups is described. This system is based on a Kirkpatrick-Baez mirror pair and utilizes a carbon filter to give a bandpass in the soft x-ray region. The focused x-rays are viewed on a single crystal scintillator through an optical microscope and the image recorded on a CCD camera. This system, together with other instruments to evaluate beam size, stability, and temporal information is described, data is presented, and the operation of the overall beamline is evaluated.