

COM-CAT

Commercial CAT

Overview

The Commercial Beamline Collaborative Access Team (COM-CAT) will be specializing in the application of synchrotron radiation to industrial problems. COM-CAT plans to operate a general-purpose beamline as an analytical service laboratory, providing both materials analysis and data interpretation for problems that require synchrotron radiation techniques for their solution. Funds for beamline construction were provided by the State of Illinois. Beamline operations will ultimately be funded on a fee-for-service basis.

Research Focus

Analyses based on synchrotron radiation are generally applicable to problems in materials science. Industrial companies have used synchrotron facilities to examine a wide variety of materials, including polymers, catalysts, candidate drugs, and biomolecules. COM-CAT expects to provide a convenient means to use synchrotron analysis capabilities to industrial organizations who either do not have current access to a beamline or require rapid turnaround of samples.

COM-CAT will, in its initial stages, construct and operate a single undulator beamline. To provide as broad a range of analytical capabilities as possible, the experimental facilities will consist of three permanent stations devoted to spectroscopy, single-crystal diffraction, small-angle scattering, and x-ray fluorescence. Zone plates will be used when microfocusing is required. To maximize use of the available beam, each table will have a permanent basic configuration. To use a downstream station, the upstream tables will be lowered below the flight path of the x-ray beam.

COM-CAT is also involved in outreach to the general industrial community. It has organized a workshop on industrial applications of synchrotron radiation and will provide on-site introductions to synchrotron radiation for potential customers.

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