

## Status of the Advanced Photon Source

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In August 1995 (about a year ahead of schedule), the Advanced Photon Source delivered radiation from an undulator with characteristics that fully met the performance goals for the storage ring and the undulator. In January 1996, the stored current in the ring was over 100 mA with a 5-hour beam lifetime, exceeding the DOE project commissioning goals. At the same time, the radiation from an undulator with 100 mA stored current was delivered to a beamline on the Experiment Hall floor. At the time of this writing, thirteen beamlines had received radiation for the users to begin work.

The average pressure in the vacuum system with 100 mA beam is better than  $1 \times 10^{-9}$  Torr. Using the radiation from either the undulator or the bending magnet source, we measured the vertical emittance of the stored beam to be 0.3 nm-radian (smaller than the design goal) reflecting a vertical coupling of under 4.3%. The observation of numerous high harmonics ( $>100$  keV) from the undulator attests to its excellent magnetic characteristics. During the next 12 months, it is expected that nearly 30 user beamlines will be commissioned to begin scientific programs. The talk will present some of the early measurements.

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