The Advanced Photon Source (APS) is a third-generation synchrotron with major emphasis on insertion device (ID) sources. Currently there are 23 sectors out of a possible 35 ID sources. Most of the insertion devices are undulators. Beamlines have been using the ID radiation at the APS for more than five years.

The control system of choice at the APS is EPICS. Based on operational experience, the ID control system has been completely revamped. During user operations, the beamline user has complete control of the insertion device. Various interfaces, from RS232 to EPICS channel access, have been provided for the users to control the IDs. The control system software has been designed to accommodate scanning of the insertion device synchronized to each user’s beamline monochromator. The users have the option of operating the device in a tapered mode. The control software allows the users to control the undulators in energy space from the fundamental to the 7th harmonic.

The design philosophy of the insertion device control system will be discussed. The implementation and operational experience will be presented in detail.


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