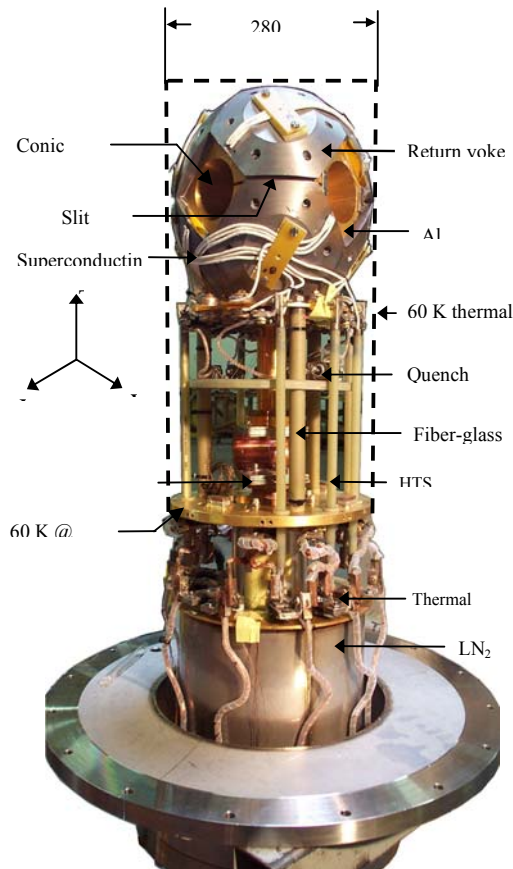


## SUPERCONDUCTING MAGNETOMETER FOR XMCD AND XMLD EXPERIMENTS

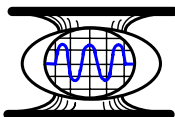
Wang NMR have designed and constructed a novel superconducting octupole magnet, which produce magnetic fields above 3.5 T for X-ray magnetic circular dichroism (XMCD) and X-ray magnetic linear dichroism (XMLD) measurement. The magnet was designed to be cryogen-free and very compact to allow insertion into vacuum chamber. Eight cone-shaped superconducting coils are arranged octahedrally to form four independent dipole pairs, facilitating five 30° conic bore holes and a 210° slit opening for large angle photon-in-photon-out experiments.



## A 6.0 T CRYOGEN FREE SUPERCONDUCTING WAVELENGTH SHIFTER



In order to enhance the hard X-ray source of 1.5 GeV storage ring of TLS, a project to install several high field superconducting insertion devices in short straight sections, such as the injection section, the RF cavity section, and sections between the arcs, has been launched. The first of these insertion devices, dubbed the superconducting wavelength shifter (SWLS), has been developed with a warm bore for synchrotron radiation light source. The wavelength shifter consists of three pairs of racetrack superconducting coils and the magnet can generate a maximum magnet field of 6 Tesla at the central pole.



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