

Surface reaction analysis apparatus at BL23SU composed of an electron energy analyzer, a supersonic molecular beam generator, a scanning tunnel microscope, quadrupole mass analyzers, a toxic gas supply system, etc. Photoemission spectroscopy and reactive molecular scattering experiments reveal surface reaction mechanisms induced by translational energy of incident reactant molecules on semiconductor-related materials.



UHV surface X-ray diffractometer was installed at BL11XU. This diffractometer is designed for *in situ* studies on III-V group semiconductor surfaces.