SPring-8 has two powerful beamlines optimized for ~meV resolution measurement of atomic dynamics: JASRI public beamline BL35XU [1] and RIKEN BL43LXU [2] (now commissioning). These are excellent facilities for investigating excitations in disordered materials and phonons in crystals.

The beamlines operate with resolution as good as 0.75 meV [3] and have two-dimensional arrays of analyzers (12 analyzers at BL35, 24 analyzers at BL43) allowing highly parallel data collection. They have been optimized for world-leading high-flux operation at 1.3~1.5 meV resolution at 21.7 keV, with >10 GHz onto the sample at BL35 and >15 GHz at BL43 (>40 GHz is expected after the upgrade to the full 15m ID is completed at BL43). The beam size in most operating configurations is <80 microns in diameter and can be reduced to <20 microns if required.

Scientific programs include geologically relevant materials in extreme conditions (pressures > 150 GPa and temperatures~3000K), ferroelectric / multiferroic materials, superconductors, cage compounds, as well as disordered materials (liquids and glasses)


Some recent topics/publications include