

Front-Cover

Sometimes large instruments are needed to look at small things. The front cover shows the 10m arm of the BL35XU spectrometer designed to probe atomic motions on Å length scales and meV energy scales, $\Delta E/E < 10^{-7}$. The main areas of investigation so far have included liquids under extreme conditions and superconductors where the samples are inaccessible to neutron scattering, but applications are rapidly expanding to include phonon softening in charge density wave materials, localized modes in skutterudites, mode behavior in relaxors and ferroelectrics, behavior of glasses of various types, and even dynamics of some biological materials. Sample data sets shown are from supercritical mercury [PRL **93** 9708] and MgB₂ [PRL **92** 197004]. Also shown is the 2D analyzer crystal array, which sits at the end of the 10m arm, and is the heart of the instrument.

(by Alfred Q. R. Baron)