Report

Pressure dependence of exchange pathways in Sr2CuB2O6
Experimental report

Author(s): Zayed, Mohamed; Strässle, Thierry; Rønnow, Henrik; Pomjakushin, Vladimir; Rüegg, Christian

Publication Date: 2014

Permanent Link: https://doi.org/10.3929/ethz-a-010243232

Rights / License: In Copyright - Non-Commercial Use Permitted
We performed a powder diffraction experiment at room temperature on SPODI using a Paris-Edinburgh type high-pressure cell. The Sr2CuB2O6 powder sample, about 50 mm3 in volume, was mixed with pressure transmitting medium methanol-ethanol (4:1), in a zero-matrix TiZr gasket. With Boron nitride anvils we were able to measure the diffraction pattern at hydrostatic pressures of 2 and 4GPa, corresponding respectively to a load of 26 and 35 tons on the pressure cell. The high pressure diffraction set up has been described in [1]. While going up to higher pressures, the gasket broke at a load of about 70 tons. The data obtained at zero pressure, 2 and 4GPa are currently being analyzed, and a diffraction pattern is presented in the figure below corresponding to 30 hours counting time.

Fig.1. Diffraction pattern of Sr2CuB2O6 at 2GPa after 30 hours.