ESRF	**Experiment title:** Compton anisotropies from magnesium oxyde crystal.	**Experiment number:** HE-385
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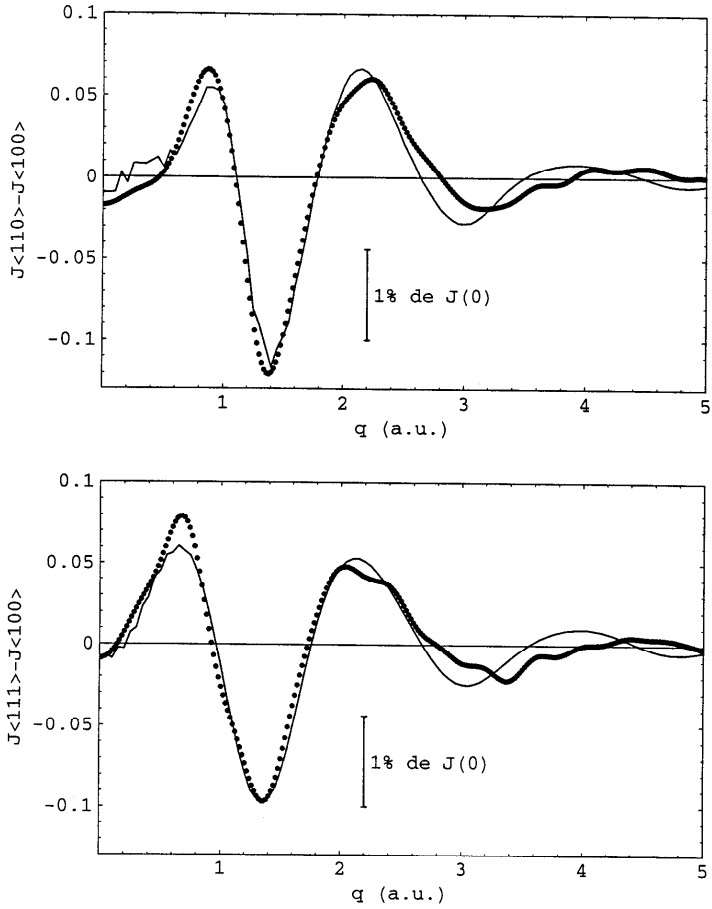
Report:

The mesurements were carried out using 3 crystals (from the same rod) oriented in the 3 orthogonal directions ([100], [110], [111]). Their sizes are about 7x5x1 mm. The incident energy was about 29.26 keV and the scattering angle was 173°. We measured 8 different crystallographic directions of MgO : [100], [110], [111], [210], [211], [221], [310] and [320]. Other measurements were made for the directions [100], [110] and [111] to study the reproductibility and the systematic error (same and different cuts).

The first results are Compton anisotropies in good agreement with the theory from Hartree-Fock calculation (see figures below). The plain curve is the calculation and the dotted one is the experiment.



The ultimate goal is here to retrieve informations mostly concerning the ionicity of MgO by the method used for LiH by Gillet and Becker (Gillet, Becker & Loupias, "The refinement of anisotropic Compton profiles and of momentum densities", Acta cryst. A51, 405-413, 1995). In that respect, we plan to reconstruct of the momentum density in the crystal, and thus, to refine a wave function model with a minimum of relevant chemical parameters.