



Experiment title: High resolution Compton profile of Be	Experiment number: HE-384	
Beamline: ID 15B	Date of experiment: from: 02.05.98 to: 06.05.98	Date of report:
Shifts: 12	Local contact(s): Thomas Buslaps	<i>Received at ESRF:</i> 31 AOUT 1998

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Report:

The aim of this experiment was to study the effects of electron correlation by measuring high resolution Compton profiles along the principal crystallographic directions using two different energies of incident radiation of 30 keV and 55 keV. In a different experimental approach of determining the electron distribution in Be we proposed to measure structure factors by diffraction which will be compared to the same theory from which the Compton profiles are calculated.

Since the two energies of 30 keV and 55 keV require a different experimental setup the Compton scattering experiment was split into two parts. So far we were able to collect the 30keV data set with good momentum resolution (0.11 a.u.) and good statistical accuracy along the high symmetry directions (11.0),(1-1.0) and (00.1). The second part of the Compton scattering study is scheduled for 27.08. - 30.08.98. We are in an early stage of the data analysis and cannot conclude on the role of the correlation effects yet.

To check the theoretical structure factors we started preliminary measurements on the low order reflections of Be using 80 keV radiation.