



	<b>Experiment title:</b> Modulated structure of $\text{La}_2\text{Co}_{1.7}$	<b>Experiment number:</b> 01-02-224
<b>Beamline:</b> BM01A	<b>Date of experiment:</b> from: 04/10/99 at 7:00 to: 05/10/99 at 7:00	<b>Date of report:</b> 24/01/2000
<b>Shifts:</b> 3	<b>Local contact(s):</b> Knudsen Kenneth	<i>Received at ESRF:</i>
<b>Names and affiliations of applicants</b> (* indicates experimentalists):  * Gervais Chapuis * Michal Dusek  Universite de Lausanne, Institut de Cristallographie, BSP Dorigny, CH-1015 Lausanne, Switzerland		

### Report:

We brought several samples of  $\text{La}_2\text{Co}_{1.7}$  preselected with help of X-ray rotation photographs. At the beginning of our experiment we collected several images for each of them in order to start the measurement with the best one.

Then we performed three data collections at  $\lambda=0.79973\text{\AA}$ , each of them for 8 hours. The first data set at the detector distance 320mm and exposition time  $\sim 20\text{s}$  was collected in order to get the best separation of satellite reflections for the q-vector refinement. The second data set with the detector distance 110mm and exposition time  $\sim 20\text{s}$  was used for satellite intensities with larger resolution. The last data set with the detector distance 110mm was measured with the smallest possible dose to get the main reflections without overflows. However, some of them were still overflowed because we couldn't go with dose below 1. This last data set was measured with 2 oscillations and later we found that some images in random  $\phi$  values were multiply measured at the same angle, but the information in their header corresponded to successive angles. We repaired these images with binary editor.

The most important goal of the synchrotron measurement was discovering of diffuse scattering planes in our sample, which were not visible in the X-ray experiment. The interpretation of results is under development.