

**16 01 637 Ferritin crystal quality by impurity depletion**

Beamline	Allocated Shifts	Start Date	Finish Date	Local Contact
BM16	6	30 November 2003	02 December 2003	Dr. Jordi JUANHUIX (e-mail: juanhuix@esrf.fr)

The depletion of impurities around protein crystals growing in diffusive media has been proposed as a plausible mechanism for crystal quality improvement mainly in microgravity conditions. To test this hypothesis, a set of experiments has been devised including experiments in microgravity and on ground (both in diffusive and in convective media). These experiments include the observation of the growth kinetics and the concentration depletion zone around growing crystals by optical interferometry as well as the characterization of the crystal quality by X-ray diffraction.

Three crystallization experiments using Ferritin as a model system were performed onboard the International Space Station in the framework of the Spanish Cervantes Soyuz mission. Crystals were analyzed at the ESRF ID19 beamline for the characterization of lattice perfection and at BM16 for the complete X-rays characterization.

A total of eight data sets were collected from crystal grown at different impurity concentration on ground or under microgravity conditions. No report is available yet for this project, the analysis is still ongoing.