



	<b>Experiment title:</b> Exploring orbital ordering in perovskite manganites	<b>Experiment number:</b> HE1093
<b>Beamline:</b>	<b>Date of experiment:</b> from: 06/02 to: 06/02	<b>Date of report:</b> 24/04/02
<b>Shifts:</b>	<b>Local contact(s):</b> P. Bencok	<i>Received at ESRF:</i>
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### Report:

This is a preliminary report on the status of proposal HE1093. The proposal aims at looking at the orbital ordering in perovskite manganites using soft x-ray resonant magnetic scattering (SXRMS) and angle-dependent x-ray absorption spectroscopy. The experiments are to be conducted in a purpose built uhv-diffractometer. Fig. 1 shows the assembly of the uhv-compatible goniometer at the manufacturer's factory. The manufacturers (RMP) are currently completing the first test phase of the goniometer and the ESRF envisages fully testing the goniometer at the manufacturer's premises in the next two weeks. Unfortunately, the diffractometer is in delay which means that HE1093 has been postponed until the middle of June. The delay arises from the fact that in the initial design phase RMP wanted to use piezoelectric motors for the motions, but after several weeks of testing these were found to be incompatible with the specifications document which I supplied. The adjustments to the mechanics in order to realise a small sphere of confusion are also taking longer than expected since the goniometer has to be assembled and disassembled each time an adjustment has to be made. This is mainly due to the damage done to the differentially pumped seals if the adjustments are made without disassembling the goniometer. RMP have now added more technicians to the project and are confident that we will be able to begin factory tests in May. All other components of the uhv-diffractometer have been delivered on site. I hope to provide a more detailed scientific report in the near future.

In terms of the next scheduling round the uhv-diffractometer will almost certainly be ready for any SXRMS user proposals that may be accepted in the current round. Fig. 1 shows that the goniometer is assembled and that fine tuning of the mechanics is all that is required now.



Figure 1 uhv goniometer undergoing first phase tests at the RMP factory.