



	<b>Experiment title:</b> The alpha-relaxation in amorphous polymers seen by scattering methods: a synergistic XPCS & NSE approach	<b>Experiment number:</b> SC-3159
<b>Beamline:</b>	<b>Date of experiment:</b> from: 09.06.11 to: 14.06.11	<b>Date of report:</b>
<b>Shifts:</b>	<b>Local contact(s):</b> Beatrice Ruta	<i>Received at ESRF:</i>
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### Report:

In this experiment we attempted to resolve the fluctuations associated with the alpha-relaxation in halogenated polymers. The samples were carefully prepared using several chlorinated and bromated polystyrenes with various molecular weights. We also prepared the samples using several sample thicknesses to optimize the signal. The samples were measured at many different temperatures around the primary structure factor peak characterizing the inter-chain distance in polymers. In all cases we observed a systematic irreversible decrease and change in shape of the static structure factor that only could indicate degradation of the sample. Irrespective of sample, no sensible correlation function that could characterize real dynamics in the system could be extracted. Thus unfortunately, this experiment was not successful due to beam radiation damage.

