ESRF	**Experiment title:** **Structural Determination of intercalated Bronzes for Light Batteries via DAFS**	**Experiment number:** CH-269
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Report:

We undartaken the DAFS measure across the Nickel edge of a series of Lithium Nickel Oxygen bronzes, important as components for light batteries.

The procedure used was to alternatively move the monochromator with one step in energy and record the X-ray Diffraction spectrum for those Theta angles where the peaks -of comparable intensity- for two different phases were close.

To clarify what we measured, is here reported a typical Powder X-ray Diffraction pattern for Nickel, where it is evident the cohesistance of two different phases **(FIG 1)** The different structure and the mixed phases can be readily studied with DAFS analysing the Fine Structure, at the metal ion K-edge energy, on a selected Bragg peak peculiar of a crystalline arrangement.

The provided beamtime and the experimental setup gave us the possibility to attempt only a DANES -analogous to XANES - measures using the 2 circle diffractometer on the diffraction hutch.

The very promising results are reported in FIG 2 and FIG 3, respectively for peak A and peak B **of** the same compound.

It is evident that quite a huge modulation is present in the extended part of the spectrum, after the edge jump.

We are confident that, with automated measure, it will possible to extract proper DAFS signal and relate the data to the extended structure in these multi side powdered samples.

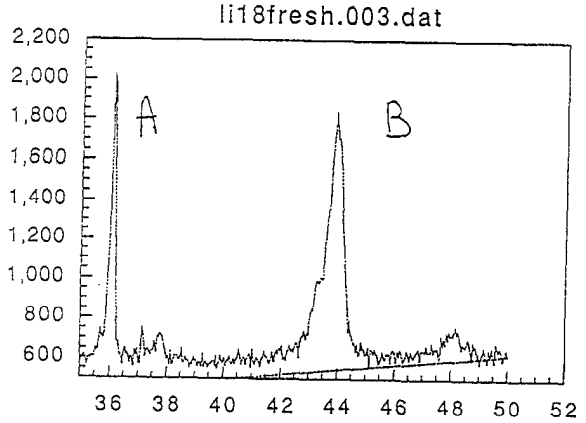

FIG. 1

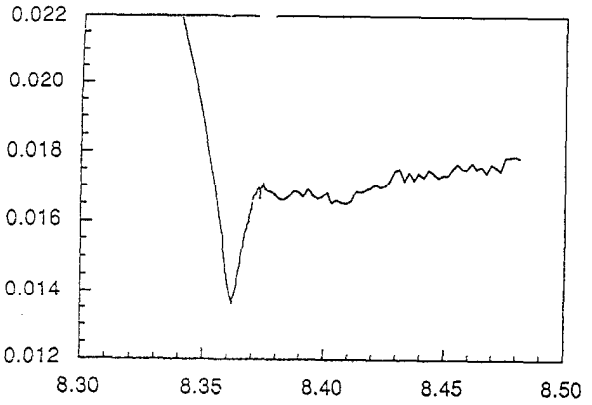

FIG. 2
Peak A

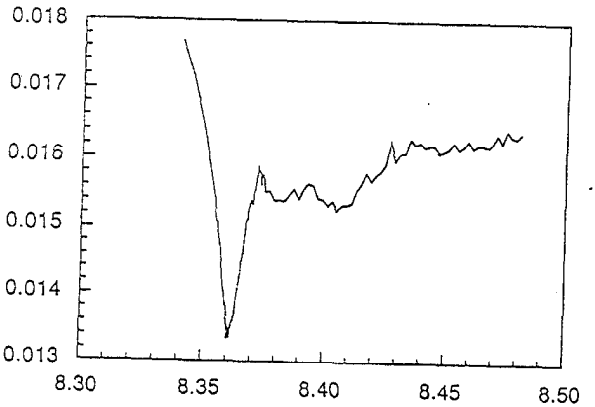

FIG. 3
Peak B