

Future Prospects for Neutron Strain Scanning

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Neutron strain measurement has come a very long way since the first measurements on triple axis spectrometers here on D1A. Since the first dedicated strain instrument, ENGIN, at ISIS, the technique has developed significantly and SALSA is part of that trajectory of improvement. In this lecture I will look at what makes a good instrument for strain measurement and consider further directions. I will examine its advantages against the faster and higher resolution synchrotron X-ray method.

In particular I will focus on the role of neutron strain mapping in the development of new processes and products as well as the assessment of the structural integrity of existing plant. Key to this development is the relationship between neutron strain measurements and finite element modelling.