50 Years of Neutron Backscattering Spectroscopy



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The pathway of neutron backscattering: from Garching to Grenoble

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With the invention of neutron backscattering in Munich µeV-spectroscopy combined with Ångström-sensitivity became accessible, albeit in a tedious way due to the low count rate. However, the technique found its way to more powerful reactors with cold sources and large guides, and a suite of innovative instrument designs widely exploiting beam focussing and including an active phase space optimisation with a moving mosaic crystal did do way with this shortcoming. Over the years neutron backscattering has enjoyed innovative developments and today the count rate is enhanced by more than 4 orders of magnitude. This allows now to consider novel advancements aiming for an improved energy resolution and a widened energy transfer range.

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