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Neutron Depth Profiling at a focused neutron beam to study Li-ion transport in thin-film batteries

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In operando observations of Li transport in all-solid-state thin-film batteries during fast (dis)charge cycling, as well as the study of mechanisms of battery aging become possible at a new Neutron Depth Profiling (NDP) setup of JCNS, using the focused neutron beam of reflectometer MARIA (MLZ). This arrangement allows for sufficiently high counting rates necessary for fast, about tens of seconds, measurements under the requirement of a fine, of an order of 10 nm, depth resolution.

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