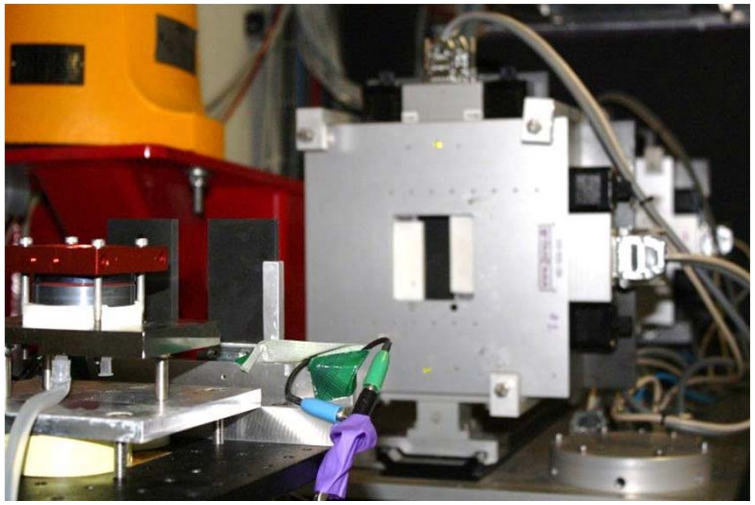
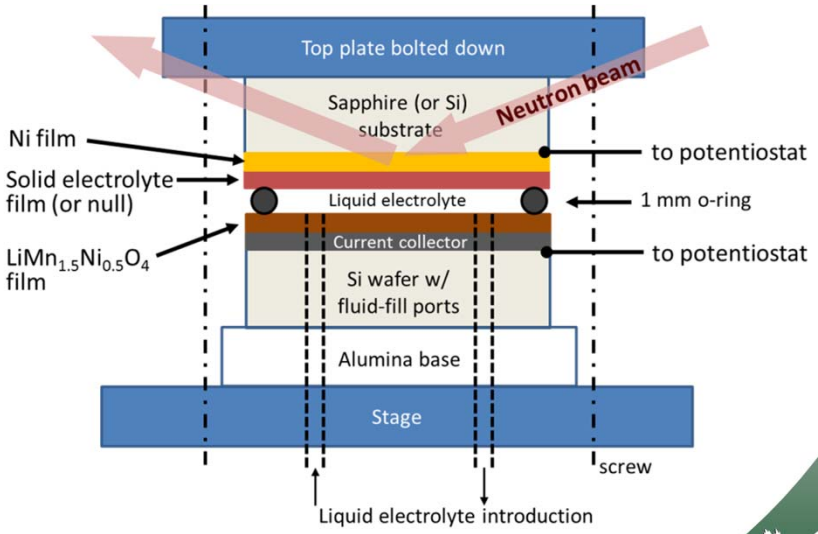
Neutron Reflectometry



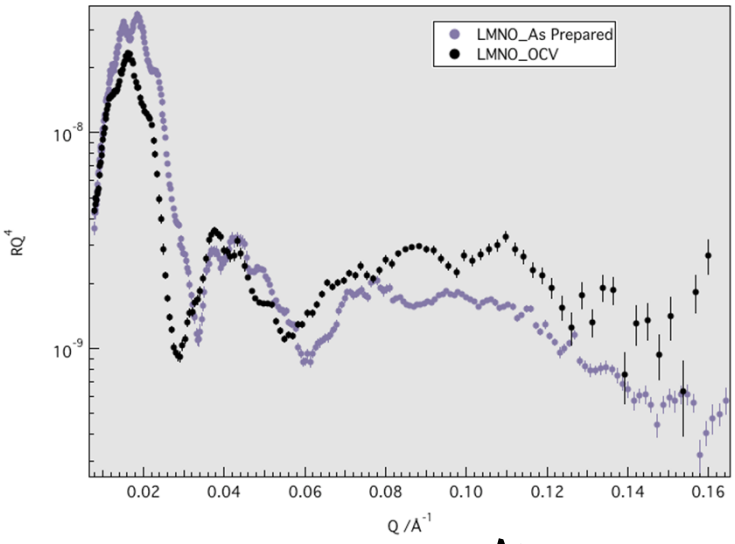
Neutron reflectometry is a non-destructive technique based on the specular reflection of a neutron beam for the characterization of thin film structures and interfaces. Unlike x-rays, neutrons are particularly useful for the characterization of low Z elements, e.g. H, Li, C, F, etc.

Environmental cells for neutron reflectometry have been designed to enable *in situ* electrochemical experiments. These experiments allow the characterization of amorphous, low Z layers that form during cell operation, e.g. SEI.



Gabriel Veith and Wyatt Tenhaeff

Neutron reflectometry



Reveals the formation of new phases and changes in composition as function of state-of-charge and electrode *in-situ for battery heterostructures*