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Combined in-situ Raman and neutron spectroscopy at the cold neutron chopper spectrometer TOFTOF

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The combination of in-situ Raman and neutron spectroscopy is very powerful in order to investigate the molecular dynamics and chemical reactions inside a sample at the same time. For this purpose we will introduce our new sample environments to combine quasi elastic (QENS) and inelastic (INS) neutron spectroscopy with Raman spectroscopy. To measure Raman and neutrons at the same time it is necessary to include a Raman spectrometer into the available space at the neutron spectrometer TOFTOF. For the Raman spectrometer, we use a commercial available transportable setup, which we can easily install at TOFTOF. The sample can be placed in different sample holders. Each sample holder offers unique possibilities to expose the sample to various environments and stimuli. In this way, we are able to perform measurements within a temperature range of 0 - 100°C. At the same time, it is possible to excite the sample by optical light or to change the humidity. We will present first results of the Raman spectrometer installed at TOFTOF and discuss scientific applications of this combination of techniques.

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