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Raman spectroscopy setup at the TOFTOF instrument

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The goal of this project was to include a portable Raman spectrometer into the time-of-flight spectrometer TOFTOF. This setup would allow us to measure neutron and Raman spectra of the sample at the same time, under the same conditions and we would be able to vary the temperature of the sample. As the sample evolves with the change of temperature, so does the Raman spectrum and it is important to take these spectra at the same time and same conditions as the neutron spectrum. The first step of this process is to test the setup in the laboratory conditions. We have managed to install the setup in a laboratory and measure some powder samples at room temperature. We have confirmed that the setup was functional and it can be used with some limitations. The ideas for improving the setup, as well as the challenges will be presented. The materials measured were hydrogen storage materials. Raman spectroscopy, along with neutron spectroscopy is a powerful technique for analyzing the bonding and the intermediate phases that appear in the reactions of these materials.

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