



Take it up a notch - Sample Environment at SINQ

Monday, 20 March 2023 16:00 (2 hours)

Following the successful guide upgrade at SINQ [1], PSI continues to improve the instrumentation to take advantage of the performance gain. The resulting boost in signal to noise enables faster data acquisition and allows more demanding experiments.

This could be experiments allowing for smaller samples sizes, at extreme conditions, with increased complexity or combinations of all three.

The increasing complexity of the scientific questions can often only be addressed by tuning multiple control parameters or combining results from complementary measurement techniques.

For example, the measurements of low-energy magnetic excitations are often performed under a combination of extreme conditions, such as high magnetic field, ultralow temperatures and high pressures.

The sample environment group at SINQ has expanded their activities to be able to meet this demand.

I will provide an overview of the ongoing sample environment projects and newly available equipment including a cryomagnet for multi-parameter studies.

Further more, I will discuss the opportunities and challenges.

[1] T. Geue, F. Juranyi, C. Niedermayer, J. Kohlbrecher, J. Stahn, U. Gasser, M. Yamada, C. Klauser, M. Kenzelmann, C. Rüegg & U. Filges (2021) SINQ—Performance of the New Neutron Delivery System, *Neutron News*, 32:2, 37-43, DOI: 10.1080/10448632.2021.1916267

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