Contribution ID: **51** Type: **Short talk**

Development of in-situ techniques for neutron scattering instruments or: How to mitigate the negative effects of (future) reactor shutdown periods at MLZ.

Tuesday 20 June 2023 10:00 (15 minutes)

Let us face it: The research reactor FRM II will experience future shutdown periods of 6 months or longer also in the near and far future be it due to regulatory issues with the local government or be it due to technical problems encountered. In this contribution I would like to show how to mitigate the negative effects of these shutdown periods and to turn them into something productive and positive for the whole MLZ.
First, I will dwell upon the recent developments of in-situ techniques at neutron scattering instruments which were performed at the MLZ. I will also summarize the new sample environment options developed, as far as I have learned about them. The latter lists will not be complete, since I do not aim to demonstrate what we have done in the past, but I would rather look into the future: What can we do and develop together with user groups in the future using the time and staff available due to the (future) reactor shutdown periods.
I will also quickly summarize the new facilities in the surrounding labs made available for users recently.
To transfer these efforts to politicians and research budget holders I suggest to bundle the above mentioned activities and to give them a common name and web-page design visible to outside users and scientists even at the early stage of a first drawing or idea. This might enable more user groups to join the efforts on site and it might open up routes to write common grant proposals. Especially in light of the up-coming sources, the European Spallation Neutron Source (ESS) in Lund or a high brilliant neutron source (HBS) in Jülich, one should position the MLZ as a knowledge base for not only neutron instrumentation, but also sample environment and in-situ techniques.
In the past, the Helmholtz Zentrum Berlin has demonstrated a similar concept with great success despite being a neutron source with a somewhat smaller reactor power.

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