



Contribution ID: 86

Type: **Presentation**

The use of standard industrial motion components in radiation and vacuum environment of Neutron Instruments

Wednesday, 22 October 2025 10:15 (15 minutes)

Neutron Instruments on spallation sources have very particular environmental conditions in their instrument zone. Typically vacuum and radiation requirements are not as demanding as on applications at other radiation facilities like synchrotrons or inside reactors. Even with high flux sources some well selected standard industrial motion components like motors, switches, cables and connectors can be used, especially in the applications around the sample area.

In this contribution we present the selection of these components on ESS Neutron Instruments suitable for these kinds of environment. We will list parts, application, the environment and the basis of our selection. This could be values in data sheets, an evaluation of the material of the component, tests or a recommendation from suppliers or in-kind partners. We also present typical pitfalls to avoid when choosing certain parts and materials. It will help design engineers to better understand the selection criteria and avoid the use of expensive specialized parts if not needed.

Primary author: GAHL, Thomas (ESS Lund)

Presenter: GAHL, Thomas (ESS Lund)

Session Classification: Lesson Learned II