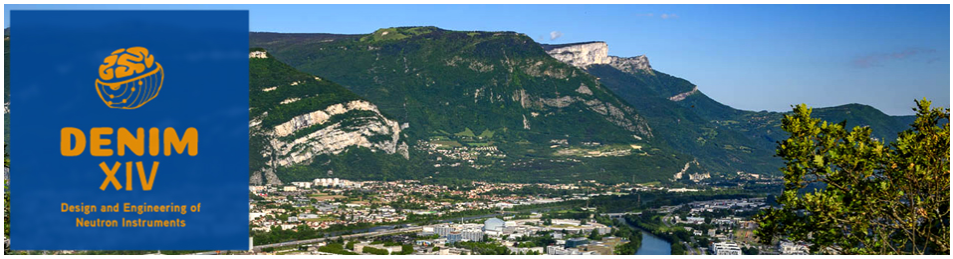

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From Commissioning Challenges to Operational Readiness: Lessons Learned from Medium Speed Choppers at the ESS

Wednesday, 22 October 2025 09:45 (15 minutes)

The European Spallation Source (ESS) represents one of the most ambitious scientific infrastructure projects in Europe, bringing together a wide community of institutes, funding bodies, and experts to deliver the next generation of neutron science. Among the key subsystems enabling world-class performance are the neutron chopper systems — over 100 precision-engineered devices designed to manipulate the neutron beam in both time and space to meet diverse scientific demands.

We will share the lessons learned from the commissioning process, including optimizations in balancing methodology, mitigation of vibration-related issues, and integration within the broader ESS control environment. These insights have not only enabled successful deployment on BIFROST and other instruments but are shaping best practices for future chopper commissioning across ESS.

As ESS advances toward operational readiness, with 15 neutron scattering instruments being prepared in parallel, the experience gained from BIFROST and other instruments provides a critical foundation for ensuring reliable, high-performance chopper systems for the next generation of neutron science.

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