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Status update of ODIN, the neutron instrument for imaging at ESS

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ODIN is the ESS state-of-the-art multipurpose neutron imaging instrument. Using wavelength-resolved imaging with tunable medium to high wavelength resolution, ODIN will provide significantly increased chemical and structural sensitivity compared to other traditional neutron imaging instruments, with fixed (or absent) wavelength resolutions. ODIN will view both the cold and the thermal moderators enhancing its spectral flexibility. Ten choppers, together with the neutron extraction and guide system, are the main instrument components behind ODIN's flexible performance. Nine choppers are located inside the bunker, together with the heavy shutter, while the remaining frame overlap chopper is in the experimental hall D01. The cave is divided in the beam shaping area, with a variable pinhole and filter systems, and the experimental area with sample stages, flight tubes and detector systems; it will also provide ample space for sample environments, other equipment needed for specific imaging modalities (such as an x-ray source), as well as for future upgrades like a diffraction detector. ODIN is now in its installation phase, after two and a half years of detailed design, procurement and manufacturing of all the components. Here we will present some of the design highlights, how the challenging installation is accomplished in the framework of the ESS facility at Lund, Sweden, and what are the future perspectives towards the cold and hot commissioning phases.

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