

Neutron Scattering Instruments and Detectors at the ESS

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The European Spallation Source, ESS, is a facility for material study by means of thermal neutron scattering, currently under construction in Lund, Sweden. The facility broadly consists of a linear accelerator with a 5MW ultimate power, a neutron source based on a spallation target, and a suite of instrument, each optimised for a particular type of investigation. Some instruments will access energy states in soft or condensed matter, others will investigate crystal structure of new materials, while others still will study behaviours of thin layers. These are only a few examples of the applications that the initial suite of instruments will address. Further instruments are envisaged beyond the initial 15, including a fundamental physics beam line for experiments such as neutron decay and neutron - antineutron oscillations. The facility construction is now well underway. Most of the instruments are in the detailed design phase and the first hardware is beginning to take shape. I will present the main classes of the neutron scattering instruments that are being built as well as the types of neutron detectors being used and developed for the ESS and other facilities of this type.

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