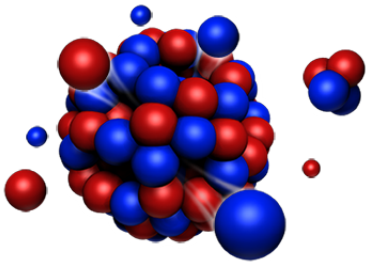

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Preliminary design of High Energy Direct Geometry neutron spectrometer at CSNS

Wednesday, 16 October 2019 13:00 (2 hours)

High Energy Direct Geometry neutron spectrometer(HD) is the most important and direct tool to study the mechanical properties of material lattice and spin. HD is the first material dynamics property research spectrometer planned and constructed in CSNS, which is widely used in physics, materials, chemistry, biology, medicine, earth science, anthropology and other fields. The construction of HD will make it possible to conduct the above research in China, expand the function of CSNS and promote basic scientific research.
The proposed HD at CSNS will be a versatile and flexible instrument. The spectrometer is designed and optimized according to the energy spectrum and pulse width of the Decoupled Water Moderator(DWM). The beam length of HD is 18 meters and the total length is about 25 meters. It is necessary to consider reducing beam loss and improving the utilization rate of high-energy neutrons on the basis of not sacrificing too large resolution. The energy range of HD is 10meV-1500meV.

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