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Bambus: introducing a new inelastic neutron multianalyser for Panda at MLZ

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Cold-neutron triple-axis spectrometers (TAS) are focused on the investigation of low-energy excitations within condensed matter physics, covering a broad selection of topics from superconductivity to magnetism. The original design of this type of spectrometer measures an individual point in a large (Q, E) space for each instrument setting. In order to increase the useful signal on TAS, recently a new form of detector design was envisioned which allows for the measuring of multiple points in (Q, E) space simultaneously. Concordantly, the multianalyser BAMBUS is being developed and constructed at the spectrometer PANDA at MLZ, in cooperation with TU Dresden and with financial support from the BMBF. The concept is to collect data at multiple points along curved paths in reciprocal space at multiple energy transfers by using multiple analysers with fixed positions, with the aim of building up a broad map in a comparatively short period of time. The aim is to use this as a complementary option to the traditional setup within single experiments, and so a fast switching time between the two options is envisioned. The aim is to improve both the versatility and data collection of the spectrometer PANDA.

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