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Marmot: Multiplexed Analyzer system with continuous energy analysis

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The Marmot project is a new type of multiplexed secondary spectrometer for cold triple axis instruments. It is based on a novel concept of energy analysis, using a large array of bent silicon blades and a position sensitive detector. By its particular geometry, it allows for continuous analysis of the neutron energy in a wide energy range (about 3.5 to 7 meV) and with a large divergence.

Tests on a prototype prove that the design works very efficiently, while keeping the background low, and with an energy resolution equal or better than conventional focusing analysers.

It will be installed at the cold TAS Thales at the ILL and may be of interest also for other applications in neutron spectroscopy. We will disuss the design and its particularities with respect to other concepts of multiplexed spectrometers.

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