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Results of Mini Neutron Monitor installed at Neumayer III and Polastern

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Neutron monitors (NMs) are ground-based devices to measure the variation of cosmic ray intensities. They are reliable devices but difficult to install because of their size and weight. Therefore a portable mini neutron monitor (MNM) that can be installed as an autonomous station at any location that provides suitable conditions has been developed recently. The first continuous measuring mini NMs (MNM) are installed at Neumayer III and the German vessel Polarstern. They are providing scientific data January 2014 and October 2012, respectively. NM measurements are influenced by the (variable) Earth magnetic field and the atmospheric conditions at its position. Thus in order to interpret the data a detailed knowledge of the instrument sensitivity with geomagnetic latitude (rigidity) and atmospheric pressure is essential. The rigidity dependence is determined experimentally by utilizing several so called latitude scans. The Polarstern was specially designed for working in the polar seas and scans usually twice a year the rigidity range below the atmospheric threshold and above 10 GV. The results of different latitude scans from October 2012 to August 2015 will be presented and discussed in the framework of yield functions.

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