

*Internal use only*

Abstract number: S2-327

2. CRs at Earth and planets (GEO)

No preference

## **Neutron monitor measurements on the German research vessel Polarstern - First results**

Heber, Bernd<sup>1</sup> and Mini-NMD, Team<sup>1</sup>

<sup>1</sup>Christian-Albrechts-Universitt zu Kiel

Neutron monitors and muon telescopes are ground-based devices to measure the variation of galactic cosmic ray intensities. In contrast to measurements by spacecraft in interplanetary space the measurements are influenced by the variable Earth magnetic field and the atmospheric conditions close to its position. In order to interpret these 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 is currently one of the most sophisticated polar research vessels in the world. Polarstern is in the possession of the Federal Republic of Germany, represented by the Ministry of Education and Research, operated by the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, and managed by the shipping company Laeisz. It spends almost 310 days a year at sea. Between November and March it usually sails to and around the waters of the Antarctic, while the northern summer months are spent in Arctic waters. In other words the vessel scans twice a year the rigidity range below the atmospheric threshold and above 10 GV. Since November 2011 a mini neutron monitor, constructed by the North West University campus Potchefstroom, and muon telescope, constructed by DESY Zeuthen, are measuring the variation of galactic cosmic rays with respect to the position of the vessel. In this presentation the measurements are presented and the pressure as well as the rigidity dependence is determined.