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## Measurements of cosmic rays by a mini neutron monitor aboard the German research vessel Polarstern.

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Galactic cosmic rays (GCRs) consist of energetic electrons and nuclei which are a direct sample of material from far beyond the solar system. Measurements by various particle detectors have shown that the intensity varies on different timescales, caused by the Sun's activity and geomagnetic variation. Interplanetary disturbances cause space weather effects which warrant a more detailed study. Many studies on GCR intensity decreases is based on the analysis of ground-based neutron monitors and muon telescopes. Their measurements depend on the geomagnetic position, and the processes in the Earth's atmosphere. In order to get a better understanding of the geomagnetic filter over the solar cycle, the Christian-Albrechts-Universität zu Kiel, DESY Zeuthen, and the North-West University in Potchefstroom, South Africa agreed on a regular monitoring of the GCR intensity as a function of latitude, by installing a portable device aboard the German research vessel Polarstern in 2012. The vessel is ideally suited for this research campaign because it covers extensive geomagnetic latitudes (i.e. goes from the Arctic to the Antarctic) at least once per year. Here we present the measurements for different latitude surveys including the periods of solar maximum in 2014 and solar minimum in 2019.

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