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On the transition from Galactic to extragalactic cosmic rays

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The Earth is permanently exposed to a flux of high-energy ionized nuclei - the cosmic rays. Most of these particles are accelerated in our Galaxy, most probably in supernova remnants. Cosmic rays are magnetically bound to our Galaxy up to energies of about 10^{17} to 10^{18} eV. At higher energies the observed particles most likely originate in other galaxies and are usually referred to as extra-galactic cosmic rays. Thus, the energy region between 10^{17} and 10^{18} eV is of great astrophysical interest. From a detailed measurement of the composition of cosmic rays in this energy regime we expect deeper insight into both, the origin of Galactic and extra-galactic cosmic rays. The status of the actual research will be reviewed and implications on our understanding of the origin of cosmic rays will be discussed.