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Transition from galactic to extragalactic CRs

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Understanding the transition from Galactic to extragalactic cosmic rays (CRs) is essential to make sense of the Local cosmic ray spectrum. Several models have been proposed to account for this transition in the 0.1 - 10 $\times 10^{18}$ eV range. For instance: *ankle models*, where the transition from a steep Galactic component to a hard extragalactic spectrum occurs in the $4 - 10 \times 10^{18}$ eV region, *dip models*, where the interactions of CR protons with the CMB producing electron-positron pairs shapes the ankle, or *mixed composition* models, in which extragalactic cosmic rays are composed of nuclei of various types.

In all these scenarios, the low-energy part of the transition involves the high-energy part of the Galactic component. Therefore, any information on the Galactic component, such as maximum energy, chemical composition, and spectrum after propagation, is crucial to understanding the Galactic-extragalactic transition.
We will briefly review the high-energy part of the CR spectrum expected from the best potential sources of Galactic CRs.

Primary author: CRISTOFARI, Pierre (Observatoire de Paris - IJCLab)

Presenter: CRISTOFARI, Pierre (Observatoire de Paris - IJCLab)