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## Understanding the origin of the break in the cosmic-ray all-electron spectrum at around 1 TeV

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Measurements of the cosmic-ray electrons plus positrons by several experiments such as CALET, DAMPE and H.E.S.S. have revealed the presence of a spectral break at around 1 TeV whose origin is still unclear. In this contribution, we explore different possibilities for the origin which include an electron source spectrum with a broken power law which is expected from the radiative cooling of electrons during their confinement inside the sources, a power law with an exponential or super-exponential cut-off as expected when the maximum energy of the electrons is limited either by free escape from the acceleration region or by radiative losses (or by the finite age of the accelerator) respectively, and a scenario with the absence of nearby potential sources. We will show that the broken power-law source spectrum best explains the observed data, and we will discuss the implications of the result on the nature of cosmic-ray escape from the source region into the Galaxy.

## Collaboration(s)

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