Irfu
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Séminaire SPP

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CEA-Saclay Bat 141, salle André Berthelot

Recent Results and New Puzzles from KASCADE-Grande and the Pierre Auger Observatory

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While there is some level of consensus on a Galactic origin of cosmic rays up to the knee ($E_k \sim 3\times10^{15}$ eV) and on an extragalactic origin of cosmic rays with energy above $\sim 10^{19}$ eV, the debate on the genesis of cosmic rays in the intermediate energy region has received much less attention, mainly because of the ambiguity intrinsic in defining such a region. The energy range between 10^{17} eV and $\sim 10^{19}$ eV is likely to be the place where the transition from Galactic to extragalactic cosmic rays takes place. The origin of these particles, though being of the highest importance from the physics point of view, is also one of the most difficult aspects to investigate. Experiments such as (i) KASCADE, (ii) KASCADE-Grande and (iii) the Pierre Auger Observatory are key players in providing data of high quality at the knee (i), up to the ankle (ii) and from below the ankle up to the highest energies (iii). Inter alia we will highlight recent measurements of the energy spectrum and elemental composition of these experiments from the intermediate energy region up to highest energies and contrast them with theoretical expectations.

Le café sera servi 10 minutes avant.

NB : La présentation d'une pièce d'identité est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance Martine Oger, tél. 01 69 08 23 50, e-mail : `martine.oger@cea.fr`. (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).