Contribution ID: **12** Type: **Contributed**

Consequences of the LHC results in the interpretation of gama ray families and giant EAS data

Wednesday, 30 June 2010 09:15 (15 minutes)

Present results of the LHC (up to 26 PeV in the Lab. system) are a very small lever arm for the extrapolation of models up to 100 EeV. However, the measurements of CMS exhibit a central pseudo rapidity density larger than the prediction of the different models. Introducing on this basis new guidelines, with larger multiplicities in the models inserted in thesimulation, we examine the consequences for gamma ray families and very large EAS.
A special attention is given to the coplanar emission observed near 10 PeV : the case of large Pt's generated during the fragmentation of relativistic strings involving valence diquarks (partonic model+Schwinger mechanism)is explored as a possible source of alignments at this energy.
At larger energies , the effects of those circumstances in the interaction fragmentation region are investigated, together with large multiplicities, as the possible origin of the small penetration power of proton initiated showers in the atmosphere. Associated statisticalbias generated by a sharp knee or ankle in the primary spectrum are also considered.

If this is a contributed presentation, please indicate preference for Oral (O) or Poster (P):

O

Primary author: Prof. CAPDEVIELLE, Jean-Noël (APC, CNRS-University Paris Diderot)

Presenter: Prof. CAPDEVIELLE, Jean-Noël (APC, CNRS-University Paris Diderot)

Session Classification: Sensitivity of Monte Carlo models to data

Track Classification: Monte Carlo models