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Type : **Poster**

## **Lateral distribution of charged particles measured in air showers by the ARGO-YBJ experiment.**

### **Abstract content**

The ARGO-YBJ experiment, installed at the YangBaJing Cosmic Ray Laboratory (4300 m a.s.l., Tibet, P.R. China), is an air shower array exploiting the full coverage approach at very high altitude. Signals from each RPC are picked-up by strips 6 cm wide and 62 cm long, thus allowing to sample the Extensive Air Showers (EAS) with an unprecedented granularity. In order to extend the dynamic range up to PeV energies, a charge read-out has been implemented by instrumenting every RPC also with two large size pads of dimension  $140 \times 125$  cm<sup>2</sup> each. As a consequence, for the first time the topological characteristics of EAS and the geometric structure of shower cores can be investigated with a great detail over more than two energy decades, up to the knee region.

In this work we report a measurement of the lateral distribution of charged particles in EAS performed by the ARGO-YBJ carpet. The sensitivity to the primary mass at energies higher than  $10^{14}$  eV will be discussed. A procedure to select events characterized by unusual distributions of charged particles (multicore events, aligned structures, "halo" events, etc.) will be also presented.

### **If this papers is presented for a collaboration, please specify the collaboration**

ARGO-YBJ

### **Summary**

### **Reference**

**Primary author(s) :** Dr. DI SCIASCIO, Giuseppe (INFN, Sez. Napoli, Italy); Dr. ZHA, Min (IHEP, Beijing, China); Dr. SHENG, Xiangdong (IHEP, Beijing, China); Dr. VIGORITO, Carlo (INFN, Sez. Torino, Italy)

**Presenter(s) :** Dr. ZHA, Min (IHEP, Beijing, China)

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