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## **Fluctuations in the lateral distribution of air shower particles observed with the Turku**

### **Abstract content**

Four pairs of liquid scintillators were used for determining the density of the electromagnetic (EM) component of air showers in the Turku air shower array. Three of these Density Detectors (DD) were located in the apices of a nearly equilateral triangle, whose sides were approximately 19.5 metres. The fourth DD lay in the centre of the triangle. The DDs consisted of two liquid scintillators side by side, each viewed by two photomultipliers (PMTs) on both ends. The pulses from the two PMTs in each scintillator were added together in order to improve the uniformity of the scintillator responses. In the preliminary shower analysis the pulse heights recorded with each scintillator pair have been added together to give the EM-densities at the positions of the DDs. The comparison of EM-densities in adjacent scintillators gives information on the fluctuations in the lateral distribution of shower particles. In this paper the EM-density data is studied and the results are discussed.

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

### **Summary**

### **Reference**

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