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A refined study of the timing data of the Turku air shower array

Abstract content

Four FT-detectors were used for the determination of the shower arrival direction in the Turku air shower array. Three were located in the apices of a nearly equilateral triangle, and the fourth lay in the centre of the triangle. The hit times of the shower front were recorded relative to the central FT. Timing data of three detectors is sufficient to determine the shower arrival direction, assuming a planar shower front. The fourth timing can be used for verifying the validity of the obtained direction.

In the preliminary studies the timing data of the outer FT's have been used for determining the arrival directions of air showers. The data have now been further scrutinised by comparing the directions obtained using different FT-triplets for the same shower events. Also the arrival direction obtained using the data of a FT-triplet can be used to calculate an expected hit time on the fourth FT. Comparison of the calculated hit times with the actual, observed hit times gives information about the accuracy of the timing system. The results of this analysis are presented and discussed.

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

Summary

Reference

Primary author(s) : Ms. ELO, Anne-Marie (Turku University of Applied Sciences)

Co-author(s) : Dr. ARVELA, Harri (Turku University of Applied Sciences)

Presenter(s) : Ms. ELO, Anne-Marie (Turku University of Applied Sciences)

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