INVESTIGATION OF THE POWER OF RESOLUTION OF A SPARK CHAMBER FOR GAMMA-RAY ASTRONOMY

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The registration of gamma rays in a spark chamber has been simulated by Monte-Carlo-calculation technique. The spark chamber pictures of these gamma-ray events having a known energy and direction of incidence have been analysed for deter-

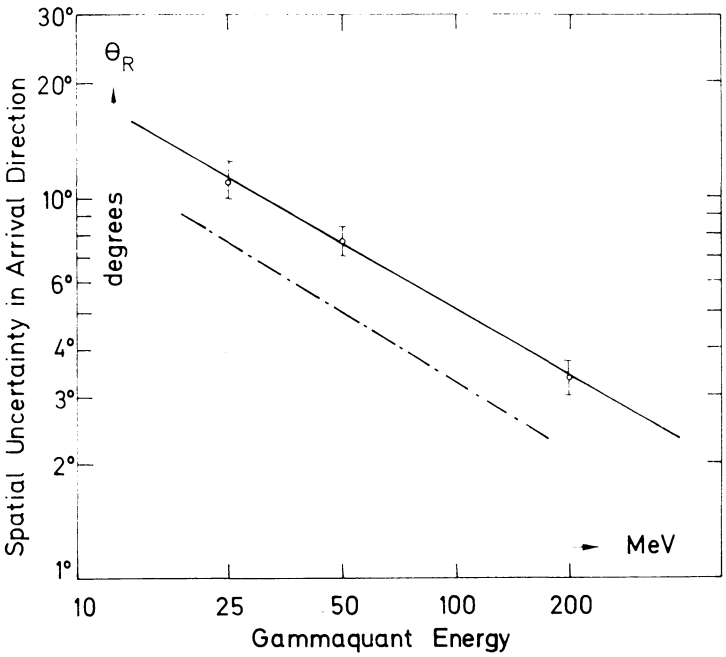

Fig. 1. Angular resolution of spark chambers. —— Monte-Carlo simulated events. –·–· Fichtel *et al.* (1969). θ_R given for 68% confidence limit.

minability of direction of incidence. The values obtained for angular resolution depending on energy are compared with values derived by other authors.

As Figure 1 shows, our calculation gives an angular resolution which is appreciably worse than that given by Fichtel *et al.* (1969). Discussions indicated that differences in experiment parameters and calculation methods tend to reduce the dis-

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crepancy but would not let it disappear. Further investigations are intended to arrive at accurate values because angular resolution has a very direct influence on the interpretation of data gathered by gamma astronomy experiments based on the spark chamber technique.

Reference

Fichtel, C. E.: 1969, *Astrophys. J.* **158**, 193.