

The Exclusive Investigation of Multiple Production
in Rapidity Space

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PURPOSE OF THE EXPERIMENT

Recently it has become clear that only an inclusive model is not enough to explain interaction mechanism in the high energy region. We have been analyzing about the multiple meson production by using accelerator data and have gotten the conclusion that the exclusive investigation of rapidity gives an important information about the interaction mechanism.

The experiment aims to measure the rapidity of the charged particles exclusively for individual event and to investigate the correlation among the number of charged particles N_c , the rapidity density ρ , the mean value $\bar{\eta}$ and the dispersion σ of a rapidity distribution for each event.

REQUIRED CONDITIONS IN THIS EXPERIMENT

- 1) Beam : parallel and mono energetic proton beam of 800 GeV/c
- 2) Amount of irradiation : 5×10^4 particles/cm² within an error of 20 %.
- 3) Setting : the beam should be irradiated vertically as possible to the surface of chamber.

DETECTOR

The detector is a small emulsion chamber containing nuclear emulsion plates and Carbon target interleaved alternately which are fixed by box. Outer dimension of the chamber, i.e, the box is 11.6 x 11.6 cm² with depth 10.8 cm. Effective window size is 8.0 x 8.0 cm², the window being defined coaxially with center axis of the box, as shown in the following figure.

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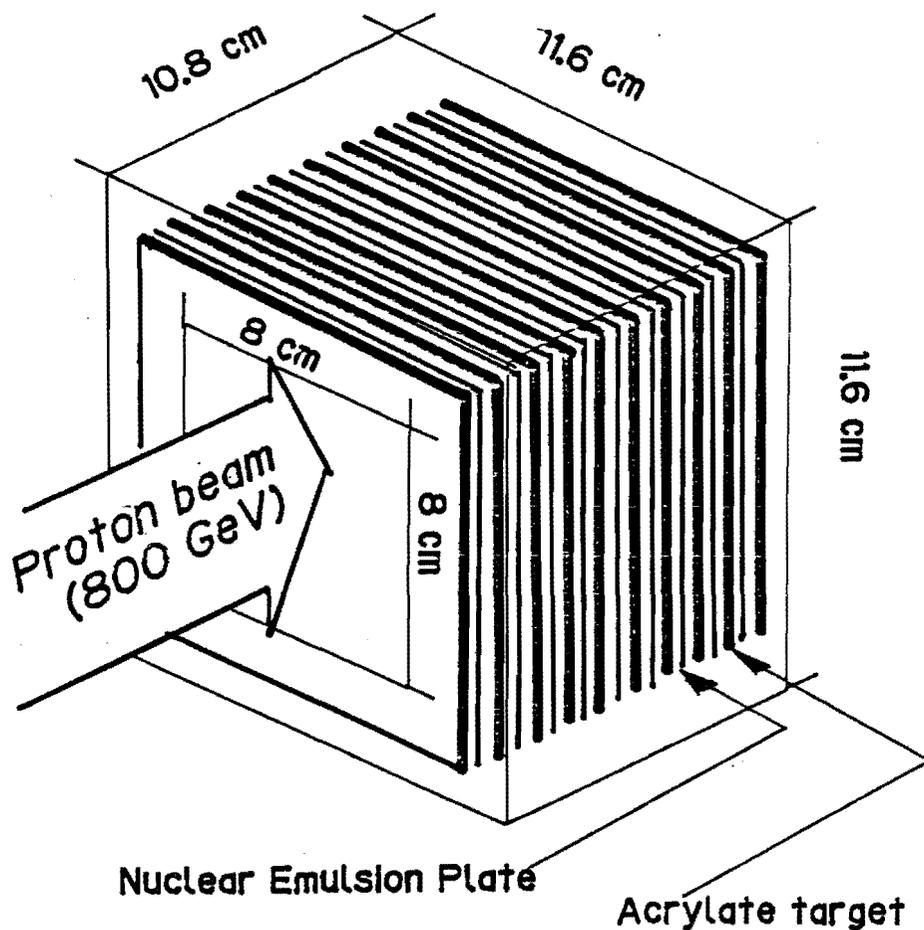


Figure. Schematic view of the chamber.

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