

## STATUS OF SEARCH FOR THE FRIEDLANDER EFFECT

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In order to study the possible existence of Friedlander effect<sup>1</sup>, we analysed  $^{12}\text{C}$  - propan interactions at relativistic energies by the bubble chamber method. Data were taken at the JINR in Dubna at the incident momentum of projectiles of 4,2 GeV/c.nucleon.

In order to study the effect, we selected tracks originating in a primary interaction and had to make sure that it has  $Z \gg 5$ . For these tracks we determined the interaction lengths in propan. The distributions of this measurements is shown in fig. 1, compared with those of primary tracks. There is a pronounced difference of the distributions of the interactions lengths of primary and secondary particles.

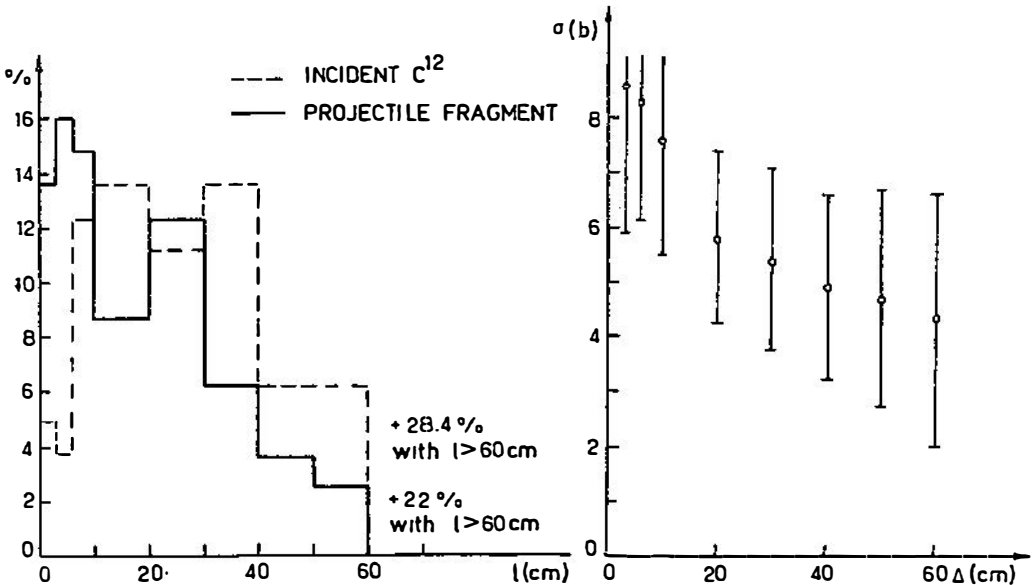


Figure 1

Figure 2

The interaction cross section that should indicate to the existence of Friedlander effect, was estimated from the relation

$$N = N_0 (1 - \exp - n \cdot \sigma \cdot \Delta)$$

$N_0$  being the number of incident particles with  $z \gg 5$ ,  $N$  the number of events,  $n$  the number of  $^{12}\text{C}$  nuclei per ccm in propane,  $\Delta$  the target thickness and  $\sigma$  the corresponding cross section. A dependence of the cross section on  $\Delta$  - the target thickness speaks in favour of the existence of the Friedlander effect. The results of our measurements are shown in fig.2. This means that there are significant indications that the effect of the dependence on cross section on the target thickness may be due to the Friedlander effect. However, we need better statistics to establish its existence undoubtedly.

1. E.M. Friedlander et al. Phys.Rev.Lett. 1980.Vol 45, No 13, 1084