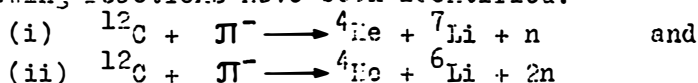


## THE INTERACTION OF NEGATIVE PIONS WITH $^{12}\text{C}$ AT 70 MeV

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A stack of 65 emulsions has been exposed to the 70 MeV  $\pi^-$  beam at LLF in order to study  $\pi^-$  absorption in flight by light nuclei. So far two prong events, i.e. the absorption followed by the emission of two charged particles have been analysed. In a preliminary study the following reactions have been identified:



The kinematically complete description of process (i) makes its identification straightforward.

In process (ii) the missing mass  $M_{nn}$  has been calculated. In the kinematically imposed limits ( 1979-2056 MeV) an enhancement of events has been observed corresponding to a missing mass distribution of the uncorrelated neutron pair (fig.1). Some background extending far outside

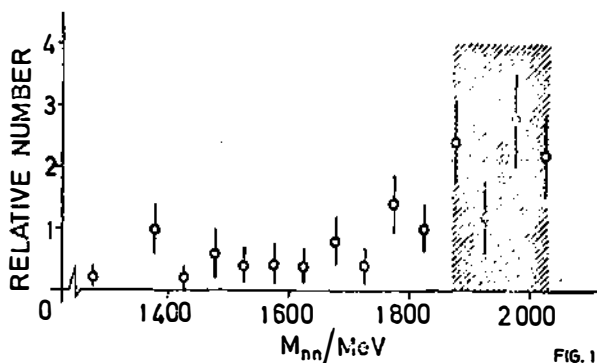


FIG. 1

the kinematical limits (shaded area on fig.1) is present. It pertains to the absorption of  $\pi^-$  on heavy constituents of the emulsion resulting in two charged particle emission. The relative energy of the  ${}^4\text{He}$ - ${}^6\text{Li}$  system has also been calculated supporting the evidence of some low lying states of  $^{10}\text{C}$ . This is in accordance with an earlier experiment<sup>(1)</sup>, where the excitation of  $^{10}\text{C}$  has been extracted from coincidence measurement of the emitted neutron pair.

(1) B. Antolković, M. Turk, M. Brantich, J. Billich, M. Jurić, *Phys. Rev. D* **1** (1970) 1916