

EXCITATION FUNCTIONS OF THE NEUTRON TRANSFER AND INELASTIC SCATTERING
FOR ^{13}C ON ^{48}Ti (25-60 MeV LAB)

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This study belongs to a more general study of formation and de-excitation of a compound nucleus in the mass region $A \sim 50-60$. Here we present the excitation functions for the reactions $^{48}\text{Ti}(^{13}\text{C}, ^{12}\text{C})^{49}\text{Ti}$ and $^{48}\text{Ti}(^{13}\text{C}, ^{13}\text{C})^{48}\text{Ti}$ inelastic from 25 to 60 MeV by 3 MeV steps. These measurements were obtained by in beam γ spectroscopic techniques where we have utilized the characteristic γ ray emission for the identification of the different residual nuclei.

The ^{13}C of the Saclay Tandem Van de Graaff bombarded ^{48}Ti targets ($\sim 200 \mu\text{g}/\text{cm}^2$) evaporated onto thick Ta.

Fig. 1 presents the flat excitation functions of these two processes in sharp contrast with the bell shape associated to the evaporation channels¹⁾.

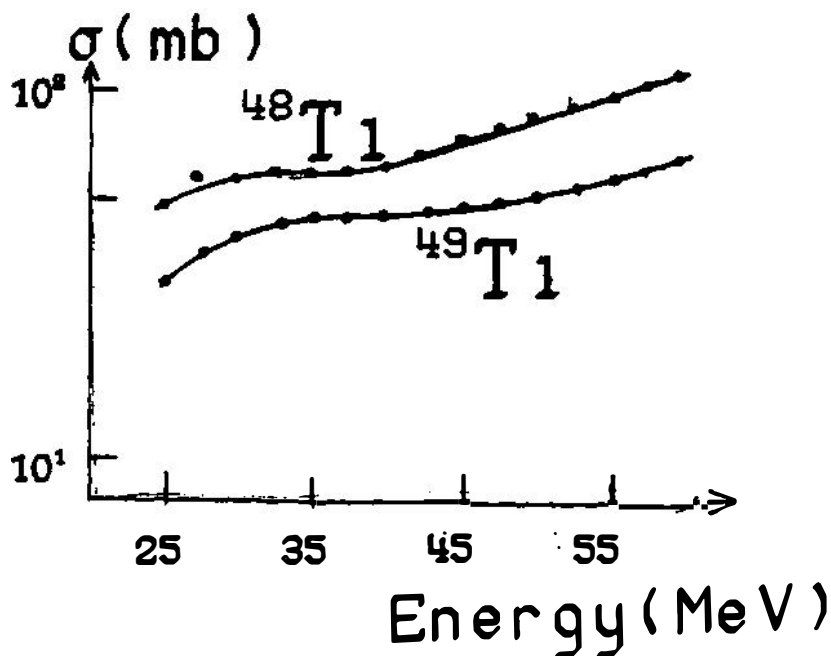
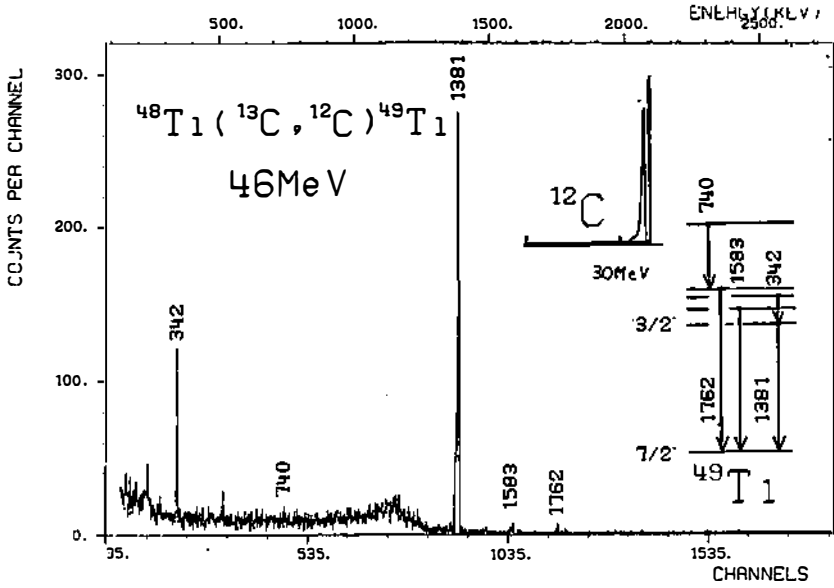


Fig. 2 presents at 46 MeV the γ spectrum coincident with ^{12}C for the neutron transfer obtained in our particle- γ coincidences experiment²⁾.



- 1) D. Rizzo et al., to be published.
- 2) H. Dumont et al., this Conference.

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