Japan Charged-Particle Nuclear Reaction Data Group

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To: Distribution
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Subject: Addition to Dictionary 21 (Method)

We propose the following addition of a code for the transmission method. In this method, cross section σ is obtained by the following ratio.

$$\sigma_{tot} = -\frac{1}{n} \log \frac{(N/N_0)_{full}}{(N/N_0)_{empty}}$$

, where

  N: number of particle detected by the transmission counter

  N_0: number of incident particle

  n: number of scatters per unit volume of target

  "full" and "empty" denote the measurement in the target-full run ($n{\neq}0$) and target-empty run ($n{=}0$). Also reaction cross section is obtained if we measure the number of non-reacted particle for N. Ratio N_0/M is so called "transmission".

Dictionary 21 (Method)

  TRN   Transmission method

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