


MEMO CP-A/61

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To: Distribution  
From: S.Yu.Babykina *Sabher -*  
Subject: 1.the conversion factors for thick target yield.  
2.additions to dictionary 27.

Note by NDS: This memo had been submitted at the Obninsk NRDC Meeting. It is herewith distributed by mail to ensure that it receives the usual distribution.

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1. In the papers concerning to data about radioactive nuclides yield for charge particles reaction some experimental groups do not use as a characteristic of the reaction intensity effective cross-section, but

$$\text{activity in } ((\text{MCI/MUAHR})/(\text{G/CM}^{**2})) \quad (1)$$

$$\text{activity in } ((\text{MUCI/MUAHR})/\text{MEV}) \quad (2)$$

These units involve directly the thickness target and (or) stopping power in it. Wishing to get rid of new measurement units introduction in dictionary 24 and have data in units connected with "barn" we use for transition to system "barn" from units (1) and (2) the following formulae:

for (1)

$$\text{SIGMA}(\text{mbarn}) = 1.42\text{E-}2 * Y((\text{MCI/MUAHR})/(\text{G/CM}^{**2})) * W(\text{G/MOL}) * T(\text{HR})$$

for (2)

$$\text{SIGMA}(\text{mbarn}) = 1.42\text{E-}5 * Y((\text{MUCI/MUAHR})/\text{MEV}) * W(\text{G/MOL}) *$$

$$\text{DE/DX}(\text{MEV}/(\text{G/CM}^{**2})) * T(\text{HR})$$

In these relations:

Y - yield in corresponding units;

T - the half-life of reaction product.

W - molecular weight of target;

DE/DX - stopping power of target (MEV/(G/CM\*\*2))

We calculate DE/DX using the program "POTAUS" distributed in 1990 among the participants of Network. We suppose to take as a rule the transition of nonstandard units in system "barn" using relations (1), (2) and similar of its. Naturally, doing such data transition the rules reported in MEMO CP-A/58 from 01.08.88 and adopted before are to carry out.

2. Add to dictionary 27.

11-NA-24 (	1)
31-GA-72 (	1)
55-CS-133( 3	2)
71-LU-170(	1)
85-AT-200( 3	)
85-AT-199( 3	)
85-AT-198( 3	)
85-AT-197( 3	)
84-PO-193( 3	)
83-BI-193( 3	)
83-BI-191( 3	)