

**Nuclear Data Section  
International Atomic Energy Agency  
P.O.Box 100, A-1400 Vienna, Austria**

**Memo CP-D/395**

**Date:** 20 May 2004  
**To:** Distribution  
**From:** O. Schwerer

**Subject:           Quantity and unit proposal requirements  
                      (Reply to CP-C/341)**

I agree with the proposal (saying that for all proposed new quantities the required **units** (dimension) and a reference to the relevant article must be given).

I want to extend this by another, equally important requirement: to define the required **independent variables** which need to be given with the new quantity (such as angle and/or secondary energy).

These two requirements, the independent variables and the units dimension, are represented in the quantities dictionary 36 by two flags: the "**reaction type**" flag (for the variables) and the "**unit dimension**" flag (also called **unit family** code).

E.g.: (from dictionary 36)

PAR,SIG           **CSP B**       Partial cross section

**CSP** = Reaction type (listed in dictionary 13), determines that for PAR,SIG a secondary energy must be given, while the unit dimension **B** (these codes are listed in dictionary 26) indicates that the unit family is the same as for the integral cross section (barn or equivalent).

For new quantities it will be helpful both for the compilers and the person updating the dictionaries, to have this information available immediately. Also, the independent variables required in addition to the incident energy (most often angles and/or secondary energies) should always be included in the corresponding LEXFOR entry.

Therefore I propose to extend the table proposed in CP-C/341 by an additional column:

Quantity	Independent variables	Unit	Reference

Distribution:

oblozinsky@bnl.gov  
vml@bnl.gov  
nordborg@nea.fr  
manokhin@ippe.obninsk.ru  
maev@ippe.obninsk.ru  
may@obninsk.ru  
Mmarina@ippe.obninsk.ru  
feliks@polyn.kiae.su  
chukreev@polyn.kiae.su  
S.Dunaeva@iaea.org  
taova@expd.vniief.ru  
varlamov@depni.sinp.msu.ru  
chiba@earth.sgu.ac.jp  
kato@nucl.sci.hokudai.ac.jp  
oba@nrdf.meme.hokudai.ac.jp  
yxzhuang@iris.ciae.ac.cn

gezg@iris.ciae.ac.cn  
hongwei@iris.ciae.ac.cn  
tarkanyi@atomki.hu  
stakacs@atomki.hu  
hasegawa@ndc.tokai.jaeri.go.jp  
vlasov@kinr.kiev.ua  
kaltchenko@kinr.kiev.ua  
ogritzay@kinr.kiev.ua  
jhchang@kaeri.re.kr  
ohtsuka@nucl.sci.hokudai.ac.jp  
m.wirtz@iaea.org  
m.lammer@iaea.org  
v.pronyaev@iaea.org  
schwerer@iaeand.iaea.org  
v.zerkin@iaea.org  
exfor@nea.fr