

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

Memo CP-D/485

Date: 15 May 2007

To: Distribution

From: S.Dunaeva

Subject: Additions to dictionaries 34 (Modifier) and 236 (Quantities)

Reference: Memo CP-E/109

In LEXFOR (p.S.11) for resonance strength is used following formula:

$$\omega\Gamma = (2J+1) / ((2J_i+1)(2J_j+1)) \Gamma_i \Gamma_j / \Gamma_{\text{tot}},$$

where $(2J+1) / ((2J_i+1)(2J_j+1))$ is statistical factor.

But in a lot of publications for resonance strength authors use another formula:

$$\omega\Gamma = (2J+1) \Gamma_i \Gamma_j / \Gamma_{\text{tot}},$$

for example in publications:

1. PR/C,15,579,1977
2. P.Endt NP/A,521,1,1990, etc..

The difference is in coefficient: $1. / ((2J_i+1)(2J_j+1))$.

It is useful to add modifier for common reaction code:

Addition to dictionary 34 (reaction field SF8):

RG -times: $(2J_i+1)(2J_j+1)$.

Additions to Dictionary 236:

WID/STR,,RG RP E - resonance strength: $(2J+1) * \Gamma(i) \Gamma(j) / \Gamma(\text{tot})$,
PAR,WID/STR,,RG RP E - partial resonance strength with factor RG

Distribution:

oblozinsky@bnl.gov
vml@bnl.gov
drochman@bnl.gov
nordborg@nea.fr
hasegawa@nea.fr
manokhin@ippe.obninsk.ru
samaev@obninsk.ru
mmarina@ippe.ru
blokhin@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
ohnishi@nucl.sci.hokudai.ac.jp
ohbayasi@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
katakura.junichi@jaea.go.jp

vlasov@kinr.kiev.ua
kaltchenko@kinr.kiev.ua
ogritzay@kinr.kiev.ua
nklimova@kinr.kiev.ua
yolee@kaeri.re.kr
jhchang@kaeri.re.kr
yolee@kaeri.re.kr
ohtsuka@nucl.sci.hokudai.ac.jp
A.Nichols@iaea.org
A.Mengoni@iaea.org
schwerer@iaeand.iaea.org
v.zerkin@iaea.org
henriksson@nea.fr
exfor@nea.fr
ganesan@barc.gov.in