**Nuclear Data Section**

**International Atomic Energy Agency**

**P.O.Box 100, A-1400 Vienna, Austria**

**Memo CP-D/970 (Rev.)**

**Date:** 23 April 2019

**To:** Distribution

**From:** N. Otsuka

**Subject: REACTION codes with SF6=POL and SF8=ASY**

All data sets coded with REACTION codes having SF6=POL and SF8 including ASY were checked.

|  |  |  |
| --- | --- | --- |
| **Subentry** | **Actual quantity compiled** | **Proposed action** |
| 13627.002-003 | Target and projectile spins in parallel and those in anti-parallel | Ok |
| 13673.002-003 | Target and projectile spins in parallel and those in anti-parallel | SF3: SCT →TOT (transmission) |
| 13780.002.3 | Projectile beam with positive helicity and negative helicity on resonance. | SF3: SCT → TOT (transmission).SF8: Use DSP/ASY/MSC. |
| 21312.002-003 | Target and projectile spins in parallel and those in anti-parallel.The asymmetry in EXFOR definition multiplied by 2. | SF3: EL → TOT (transmission).SF5: Use TRS.SF8: Use DSP/ASY/FCT. |
| 22250.002-007 | Projectile beam with positive helicity and negative helicity on resonance. | SF5: Add LON.SF8: Use DSP/ASY/MSC. |
| 23106.002-004 | They seem very different from those compiled with SF8=DSP/ASY. | Delete them, or propose quantity codes with submission of their definitions for LEXFOR. |
| 41388.003 |
| 41484.003-013 |

Note that the modifier DSP means cross section difference σ↑↓-σ↑↑ where ↑↑ (↑↓) denotes the target spin and projectile spin are in parallel (anti-parallel). This modifier is used with the branch code TRS (transverse polarization) or LON (longitudinal polarization).

**Addition to LEXFOR “Polarization”**

**Spin-spin asymmetry**

ε=(Np-Na)/(Np+Na)

where Np and Na are counts from the reaction between target and projectile which spins are in parallel (p) and anti-parallel (a), respectively.

**REACTION Coding:** TRS or LON in SF5, POL in SF6, DSP/ASY in SF8.

**Distribution:**

a.koning@iaea.org

abhihere@gmail.com

aloks279@gmail.com

cgc@ciae.ac.cn

dbrown@bnl.gov

draj@barc.gov.in

fukahori.tokio@jaea.go.jp

ganesan555@gmail.com

gezg@ciae.ac.cn

imai@nucl.sci.hokudai.ac.jp

iwamoto.osamu@jaea.go.jp

j.c.sublet@iaea.org

jmwang@ciae.ac.cn

kaltchenko@kinr.kiev.ua

kenya.suyama@oecd.org

l.vrapcenjak@iaea.org

manuel.bossant@oecd.org

masaaki@nucl.sci.hokudai.ac.jp

michael.fleming@oecd.org

mmarina@ippe.ru

nicolas.soppera@oecd.org

n.otsuka@iaea.org

nrdc@jcprg.org

odsuren@gmail.com

ogritzay@kinr.kiev.ua

ogrudzevich@ippe.ru

otto.schwerer@aon.at

pikulina@expd.vniief.ru

pritychenko@bnl.gov

s.selyankina@iaea.org

samaev@obninsk.ru

sbabykina@yandex.ru

scyang@kaeri.re.kr

selyankina@expd.vniief.ru

sonzogni@bnl.gov

stakacs@atomki.hu

stanislav.hlavac@savba.sk

sv.dunaeva@gmail.com

taova@expd.vniief.ru

tarkanyi@atomki.hu

vvvarlamov@gmail.com

v.zerkin@iaea.org

vidyathakur@yahoo.co.in

yolee@kaeri.re.kr

zholdybayev@inp.kz