**Nuclear Data Section**

**International Atomic Energy Agency**

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

**Memo CP-D/1002**

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**To:** Distribution

**From:** N. Otsuka

**Subject: Revision of LEXFOR “Scattering” (partial scattering)**

When the elastic scattering cannot be separated from inelastic scattering to low-lying excitation levels due to limitation of the measurement apparatus, the authors often report the sum of the cross section for elastic scattering and inelastic scattering to the low-lying excitation levels. Neutron scattering by a heavy nuclide is a typical example (e.g., neutron scattering by 235U, which first excitation level is only 75 eV.)

This is “partial scattering” in the EXFOR terminology. (It is also sometimes referred to as “quasi-elastic scattering” in heavy-ion induced reaction experiments.)

Distinction of the “partial scattering” cross section from the elastic scattering cross section is important for optical potential model analysis, and I am routinely asked by EXFOR users to correct the REACTION code. I would like to propose addition of a short description on partial scattering in LEXFOR “Scattering”:

**Partial Scattering**

The sum of elastic scattering and a part of inelastic scattering.

**REACTION Coding**: SCT in SF3 and PAR in SF5

***Example:*** (...(N,SCT)...,PAR,SIG)

**Distribution:**

a.koning@iaea.org

abhihere@gmail.com

aloks279@gmail.com

bknayak@barc.gov.in

daniela.foligno@oecd-nea.org

dbrown@bnl.gov

draj@barc.gov.in

exfor@oecd-nea.org

franco.michel-ssendis@oecd-nea.org

fukahori.tokio@jaea.go.jp

ganesan555@gmail.com

gezg@ciae.ac.cn

iwamoto.osamu@jaea.go.jp

j.c.sublet@iaea.org

jmwang@ciae.ac.cn

kaltchenko@kinr.kiev.ua

kenya.suyama@oecd-nea.org

kimdh@kaeri.re.kr

kimura.atsushi04@jaea.go.jp

l.vrapcenjak@iaea.org

manuel.bossant@oecd-nea.org

masaaki@nucl.sci.hokudai.ac.jp

mmarina@ippe.ru

nicolas.soppera@oecd-nea.org

n.otsuka@iaea.org

nrdc@jcprg.org

odsurenn@gmail.com

ogritzay@ukr.net

ogrudzevich@ippe.ru

otto.schwerer@aon.at

pikulina@expd.vniief.ru

pritychenko@bnl.gov

s.okumura@iaea.org

samaev@obninsk.ru

sbabykina@yandex.ru

scyang@kaeri.re.kr

selyankina@expd.vniief.ru

sonzogni@bnl.gov

stakacs@atomki.mta.hu

stanislav.hlavac@savba.sk

sv.dunaeva@gmail.com

tada@nucl.sci.hokudai.ac.jp

taova@expd.vniief.ru

tarkanyi@atomki.hu

vvvarlamov@gmail.com

v.zerkin@iaea.org

vidyathakur@yahoo.co.in

vsemkova@inrne.bas.bg

yolee@kaeri.re.kr

zholdybayev@inp.kz