**Nuclear Data Section**

**International Atomic Energy Agency**

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

**Memo 4C-3/0418**

**Date:** 10 April 2021

**To:** Distribution

**From:** N. Otsuka, M. Mikhailiukova

**Subject: Compilation of measured spectra published in Baghdad Atlas**

**Reference:** Memo 4C-3/417, CP-C/489

The Baghdad Atlas tabulates the **gamma spectra** measured at the IRT-2000 reactor of Nuclear Research Centre (**Baghdad**) and the IRT-M reactor of Kurchatov Institute (**Moscow**). They were partly compiled in 15 EXFOR entries by NDS and CJD from various sources several decades ago (e.g., EXFOR 30303 and 40449).

In 2017, the UC Berkeley group has released a database compiling all spectra published in the Atlas [1]. In 2019, we developed a code converting the new database (CSV) to EXFOR format in close contact with the UC Berkeley group, and the EXFOR entries were transmitted to other centres in 2020. See Memo 4C-3/417 for more details. We got various comments during this CSV-EXFOR conversion, and they were sent to the UC Berkley group for update of their database.

The UC Berkley group also **converted the gamma spectra measured in Baghdad and Moscow to the gamma production cross sections** by using a spectrum averaged 548 keV gamma production cross section derived from the ENDF library as the reference cross section, and included them in the new database, too. NDS and CJD do not plan their compilation, and do not have an objection for their compilation by NNDC if the newly created NNDC entry follows the rules mentioned in LEXFOR “Data type” - Data derived by other than the author.

N.B. The NRDC 2014 meeting agreed to compile such data derived by other than the author (experimentalist) exceptionally when there is a strong need from EXFOR users and the derived data are well documented in a peer-reviewed journal with the derivation procedure (C30 of NRDC2014). When NNDC compiled the converted cross sections in EXFOR 14521 and transmitted in PRELIM.1449, the entry was not accepted due to absence of documentation published in a peer-reviewed journal. On 30 January 2021, however, the UC Berkley group published the conversion procedure [2], and inclusion of the derived cross sections in EXFOR is now legal.

**References**

[1] A.M. Hurst, L.A. Bernstein, S.A. Chong, Report LBNL-1007259 (2017).

[2] A.M. Hurst, L.A. Berstein, T. Kawano A.M. Lewis, K. Song, Nucl. Instrum. Meth. A**995** (2021)165095.

**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-sendis@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

michael.fleming@oecd-nea.org

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

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

**cc:**

andrew.voyles@berkeley.edu

amhurst@berkeley.edu

labernstein@lbl.gov