Experimental and Evaluated Kerma Factors for Nuclei relevant to CRP

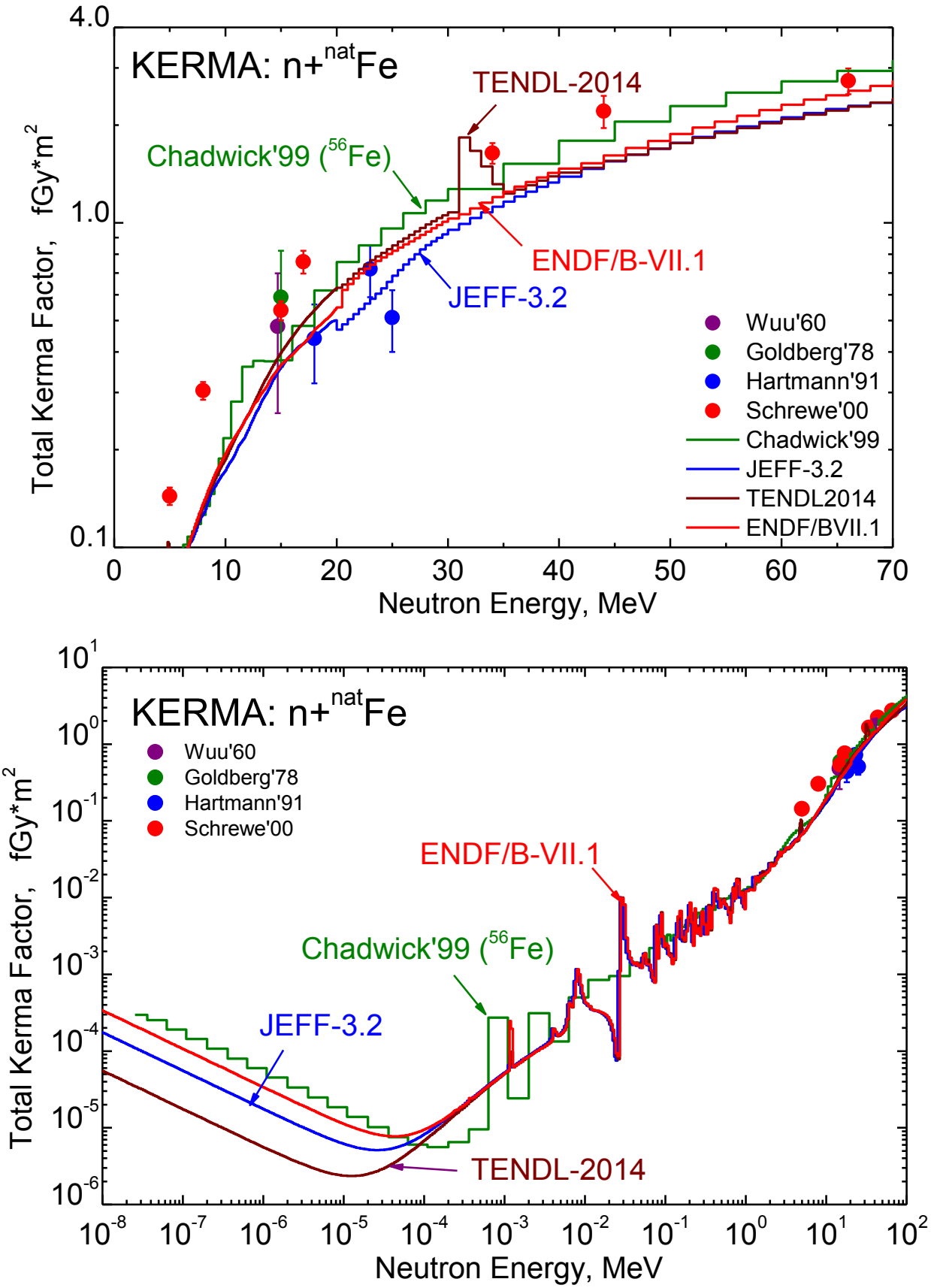

Fig. 1. Iron neutron Kerma Factor vs. linear (top) and log (bottom) energy scales: experimental data and evaluations.

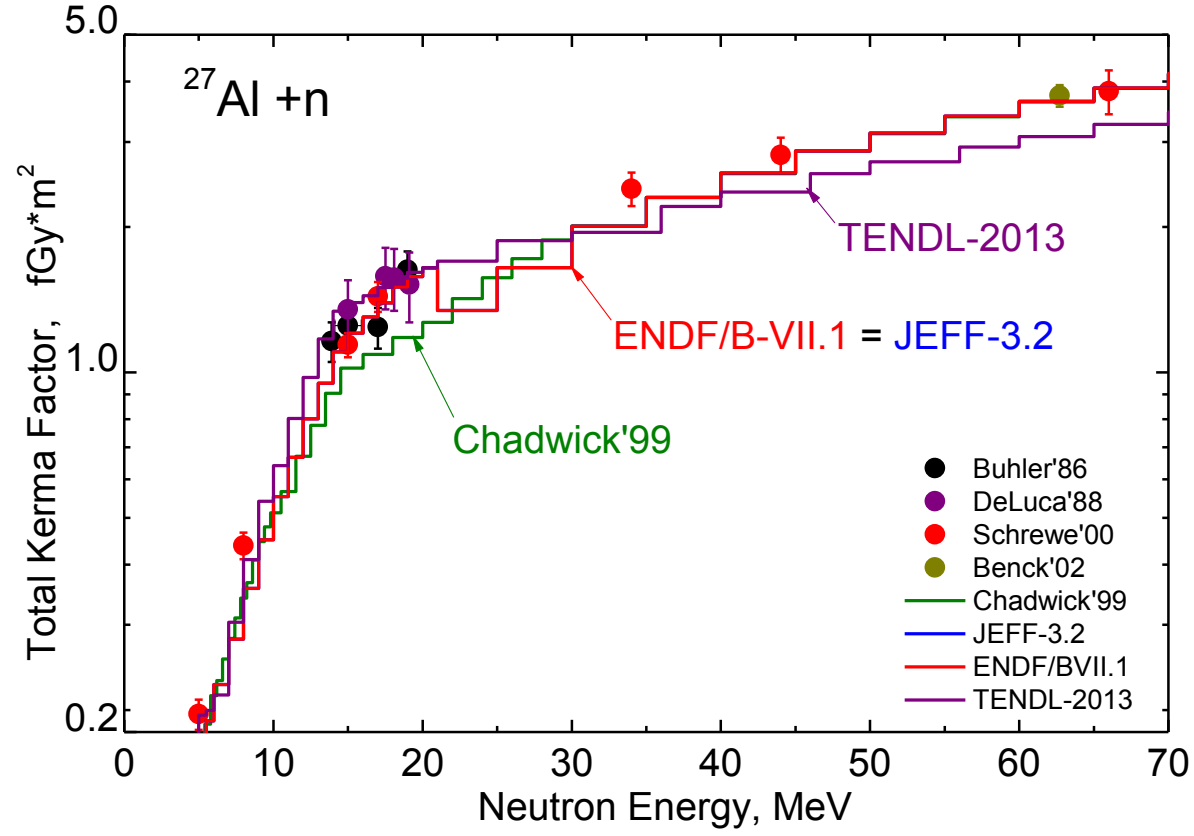

Fig. 2. Aluminium neutron Kerma Factor: experimental data and evaluations.

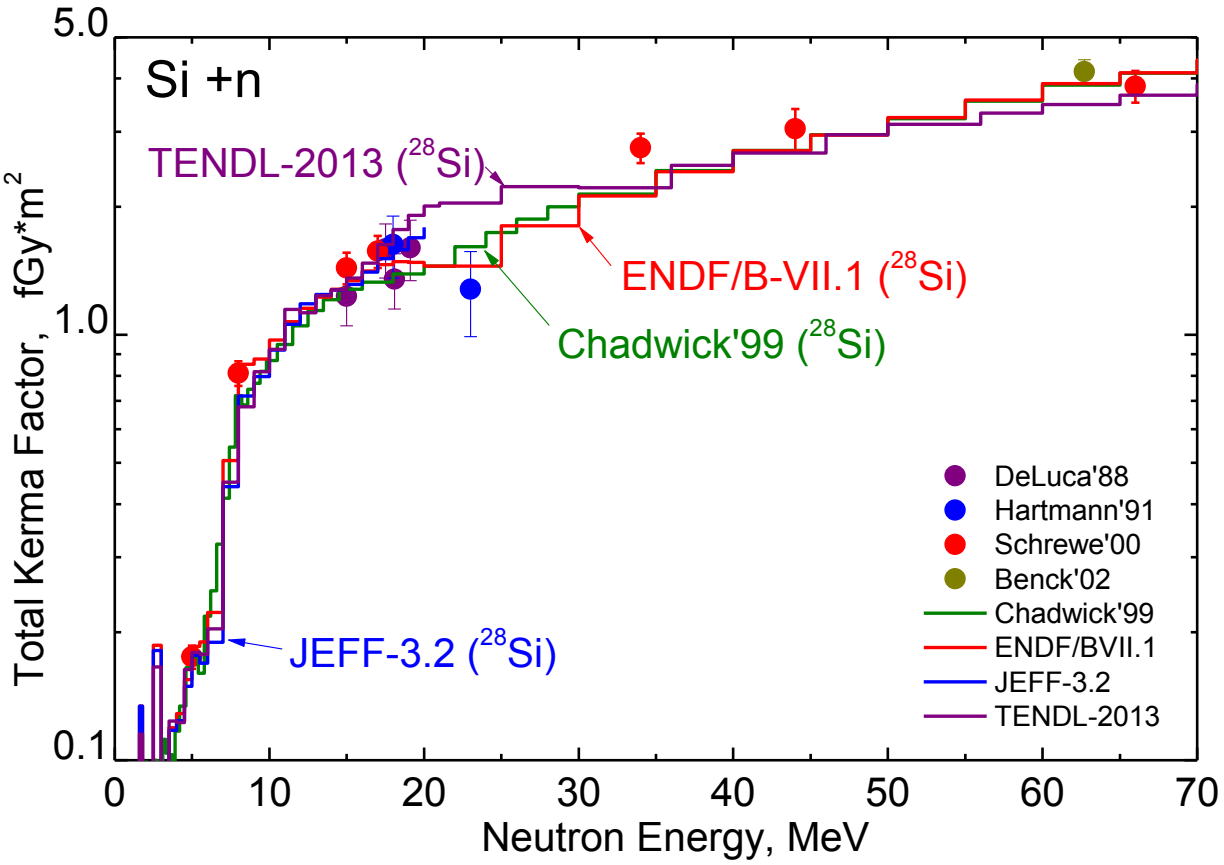

Fig. 3. Silicon neutron Kerma Factor: experimental data and evaluations.

References:

Measurements: see https://www-nds.iaea.org/CRPdpa/DataMissed.pdf

Evaluations:

- "Chadwick'99" - M.B. Chadwick et al., "A consistent set of neutron kerma coefficients from thermal to 150 MeV for biologically important materials", Medical Physics 26, 974 (1999); http://dx.doi.org/10.1118/1.598601
- "ENDF/B-VII.1" - ENDF/B-VII.1 processed by NJOY-2012.50+ upxx,
  How to convert kerma from the "heartr" module MT=301 [ev*b] to units [fGy*m^2]:
  example for Fe-56 multiplied MT301 by
  *1.E+15*1.602176565E-19*1.E-24*1.E-4/(55.934936326*1660538.921E-33) to get [fGy*m^2]*

Papers dedicated to the specific KERMA, dpa and data processing issues:

- C. Konno, K. Ochiai, K. Takakura and S. Sato, "Remarks on KERMA Factors in ACE files", Nuclear Data Sheets 118 (2014) 450–452 http://dx.doi.org/10.1016/j.nds.2014.04.103
- J.L. Conlin, A.C. Kahler, D.K. Parsons, M.G. Gray, M. Lee, M.C. White, "LANL Experience while Creating & Validating ACE and Multi-Group Files from ENDF/B-VII.1" LA-UR-13-28551, 2013 http://www.nndc.bnl.gov/proceedings/2013csewgusndp/wed/pm/Conlin_Problems.pdf
- A. Konobeyev, "Status of the evaluation of EUROFER displacement cross-sections using advanced models", EFFDOC-1189, Apr 2013
- O. Cabellos, "Processing and generation of DPA cross section library up to 150 MeV", EFFDOC-1203, Nov 2013
- A. Konobeyev et al., "Uncertainties in the displacement cross-sections of Fe and W", EFFDOC-1180, Nov. 2012
- O. Cabellos, E. Castro., "UPM Activities on the TSLs processing and on the generation of DPA cross section library up to 150 MeV" EFFDOC-1181, Nov. 2012