



**HAL**  
open science

## Tripoli-4 benchmarking onjeff-3.3t1 library

C. Jouanne, M. Coste-Delclaux

► **To cite this version:**

C. Jouanne, M. Coste-Delclaux. Tripoli-4 benchmarking onjeff-3.3t1 library. Joint Evaluated Fission and Fusion (JEFF) Nuclear Data Library (JEFF Meeting 2016), Nov 2016, Paris, France. cea-02435091

**HAL Id: cea-02435091**

**<https://cea.hal.science/cea-02435091v1>**

Submitted on 10 Jan 2020

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

DE LA RECHERCHE À L'INDUSTRIE

cea den

# TRIPOLI-4 BENCHMARKING ON JEFF-3.3T1 LIBRARY

***Cédric Jouanne / Mireille Coste-Delclaux***

*Den-Service d'étude des réacteurs et de mathématiques appliquées (SERMA),  
CEA, Université Paris-Saclay, F-91191, Gif-sur-Yvette, France*

## TRIPOLI-4 benchmarking

- Tripoli-4 library processed on JEFF-3.3T1 at 294 K with GALILÉE-V0
  - NJOY99-364 (Moder, Reconr, Broadr, Thermr)
  - CALENDF 2005 (rév. Fév. 2012)
  - TRIPOLI-4.10 with Probability Tables in URR

*(JEFF-3.3T1 also processed with NJOY2012-50)*

## COMPARISON BETWEEN JEFF-3.2 AND JEFF3.3T1

Ident	Exp. Val. ( $\sigma$ )	JEFF-3.2 ( $\sigma$ )	JEFF-3.3T1 ( $\sigma$ )	$\Delta = J33-J32$	$\Delta/\bar{\sigma}$
HMF-0013_CAS1	0.99900 (150)	0.99600 (11)	0.99606 (11)	6	0.54
HMF-001_CAS1	1.00000 (100)	1.00071 (11)	1.00031 (11)	-40	3.64
HMF-004_CAS1_1D	0.99850 (0)	0.99819 (12)	0.99808 (12)	-11	0.91
HMF-004_CAS1_3D	1.00200 (0)	1.00104 (12)	1.00066 (12)	-38	3.17
HMF-014_CAS1	0.99890 (170)	0.99692 (10)	0.99706 (10)	14	1.4
HMF-015_CAS1	0.99960 (170)	0.99449 (9)	0.99498 (9)	49	5.44
HMF-028_CAS1	1.00000 (160)	1.00530 (11)	1.00415 (11)	-115	10.5
HMF-032_CAS1	1.00000 (160)	1.00607 (9)	1.00511 (9)	-96	10.7
HMF-032_CAS2	1.00000 (270)	1.00661 (9)	1.00556 (9)	-105	11.7
HMF-032_CAS3	1.00000 (170)	1.00174 (9)	1.00096 (9)	-78	8.67
HMF-032_CAS4	1.00000 (170)	1.00223 (9)	1.00189 (9)	-34	3.78
HST-009_CAS1	1.00000 (570)	1.00063 (5)	1.00286 (5)	223	44.6
HST-009_CAS2	1.00000 (570)	1.00102 (5)	1.00306 (5)	204	40.8
HST-009_CAS3	1.00000 (570)	1.00050 (5)	1.00224 (5)	174	34.8
HST-009_CAS4	1.00000 (570)	0.99495 (5)	0.99655 (5)	160	32
HSTH-004_CAS1	1.00000 (650)	0.99446 (9)	0.99602 (9)	156	17.3
HSTH-004_CAS2	1.00000 (710)	0.98933 (9)	0.99072 (9)	139	15.4
HSTH-004_CAS3	1.00000 (780)	0.99571 (9)	0.99676 (9)	105	11.7
HSTH-004_CAS4	1.00000 (910)	0.99786 (9)	0.99842 (9)	56	6.22
HSTH-004_CAS5	1.00000 (1040)	0.99629 (9)	0.99589 (9)	-40	4.44
HSTH-004_CAS6	1.00000 (1170)	0.99290 (9)	0.99193 (9)	-97	10.8

## COMPARISON BETWEEN JEFF-3.2 AND JEFF3.3T1

Ident	Exp. Val. ( $\sigma$ )	JEFF-3.2 ( $\sigma$ )	JEFF-3.3T1 ( $\sigma$ )	$\Delta = J33-J32$	$\Delta/\bar{\sigma}$
IMF-001_CAS2	1.????? (???)	1.00124 (13)	1.00041 (13)	-83	6.38
IMF-001_CAS3	1.????? (???)	1.00067 (13)	0.99946 (12)	-121	9.68
IMF-001_CAS4	1.????? (???)	1.00167 (13)	1.00076 (13)	-91	7
IMF-007_d	1.00000 (250)	1.00464 (13)	1.00510 (13)	46	3.54
IMF-007_s	1.00000 (250)	1.00405 (13)	1.00444 (13)	39	3
IMF-010_c1	0.99540 (240)	0.99783 (13)	0.99899 (12)	116	9.28
IMF-012_c1	1.00070 (270)	1.00633 (13)	1.00443 (13)	-190	14.6
LCTH-006_CAS1	1.00000 (200)	1.00161 (12)	1.00166 (5)	5	0.58
LCTH-006_CAS9	1.00000 (200)	1.00116 (12)	1.00134 (5)	18	2.12
LCTH-007_CAS1	1.00000 (200)	1.00220 (13)	1.00225 (5)	5	0.55
LCTH-007_CAS4	1.00000 (200)	1.00185 (13)	1.00212 (6)	27	2.84
LCTH-007_CAS5	1.00000 (200)	1.00214 (5)	1.00253 (5)	39	7.8
LCTH-007_CAS9	1.00000 (200)	1.00043 (5)	1.00066 (6)	23	4.18
LCTH-045_CAS1	1.00000 (200)	1.01108 (4)	1.01049 (4)	-59	14.8
MCTH-003_CAS3	1.00000 (520)	1.00355 (4)	1.00326 (5)	-29	6.44
MCTH-003_CAS6	1.00000 (200)	0.99948 (5)	0.99711 (6)	-237	43.1
MCTH-004_CAS1	1.00000 (460)	0.99651 (4)	0.99557 (6)	-94	18.8
MCTH-004_CAS11	1.00000 (510)	0.99702 (4)	0.99558 (5)	-144	32
MSTH-002_CAS58	1.00000 (510)	0.99826 (8)	0.99648 (10)	-178	19.8
MMF-001_CAS1	0.99800 (80)	0.99907 (10)	0.99882 (10)	-25	2.5
MMF-009_CAS1	0.99770 (60)	1.00002 (10)	0.99959 (10)	-43	4.3
PMF-001_CAS1	1.00000 (200)	1.00042 (12)	0.99953 (12)	-89	7.42
PMF-002_CAS1	1.00000 (200)	1.00273 (12)	1.00124 (12)	-149	12.4
PMF-010_CAS1	1.00000 (180)	1.00089 (12)	0.99977 (12)	-112	9.33
PMF-016_CAS1	0.99740 (420)	1.01934 (10)	1.02095 (10)	161	16.1
PMF-016_CAS2	1.00000 (380)	1.00856 (10)	1.00998 (10)	142	14.2
PMF-016_CAS3	1.00000 (330)	1.00668 (10)	1.00784 (10)	116	11.6
PMF-016_CAS4	1.00000 (300)	1.00605 (10)	1.00750 (10)	145	14.5
PMF-016_CAS5	1.00000 (340)	1.00586 (10)	1.00720 (10)	134	13.4
PMF-016_CAS6	1.00000 (320)	1.00881 (10)	1.00983 (10)	102	10.2
PMF-022_CAS1	1.00000 (210)	0.99905 (9)	0.99802 (9)	-103	11.4

Ident	Exp. Val. ( $\sigma$ )	JEFF32 ( $\sigma$ )	JEFF33T1 ( $\sigma$ )	$\Delta = J33-J32$	$\Delta/\bar{\sigma}$
PMF-023_CAS1_detail	1.00000 (20)	0.99941 (12)	0.99916 (12)	-25	2.08
PMF-023_CAS1_simple	1.00000 (20)	0.99932 (12)	0.99952 (12)	20	1.67
PMF-024_CAS1_detail	1.00000 (20)	1.00082 (12)	1.00048 (12)	-34	2.83
PMF-024_CAS1_simple	1.00000 (20)	1.00053 (12)	1.00072 (12)	19	1.58
PMF-029_CAS1	1.00000 (200)	0.99679 (9)	0.99558 (9)	-121	13.4
PMF-037_CAS1	1.00000 (440)	1.00066 (10)	1.00246 (10)	180	18
PMF-037_CAS10	1.00000 (340)	0.99723 (10)	0.99907 (10)	184	18.4
PMF-037_CAS11	1.00000 (380)	0.99423 (10)	0.99649 (10)	226	22.6
PMF-037_CAS12	1.00000 (400)	0.99942 (10)	1.00152 (10)	210	21
PMF-037_CAS13	1.00000 (300)	0.99405 (10)	0.99568 (10)	163	16.3
PMF-037_CAS14	1.00000 (370)	1.00208 (10)	1.00396 (10)	188	18.8
PMF-037_CAS15	1.00000 (330)	0.99507 (10)	0.99678 (10)	171	17.1
PMF-037_CAS16	1.00000 (390)	0.99564 (10)	0.99740 (10)	176	17.6
PMF-037_CAS2	1.00000 (440)	0.99943 (10)	1.00152 (10)	209	20.9
PMF-037_CAS3	1.00000 (430)	0.99789 (10)	0.99970 (10)	181	18.1
PMF-037_CAS4	1.00000 (430)	1.00121 (10)	1.00308 (10)	187	18.7
PMF-037_CAS5	1.00000 (370)	0.99802 (10)	1.00014 (10)	212	21.2
PMF-037_CAS6	1.00000 (400)	0.99956 (10)	1.00181 (10)	225	22.5
PMF-037_CAS7	1.00000 (380)	0.99852 (10)	1.00042 (10)	190	19
PMF-037_CAS8	1.00000 (330)	0.99878 (10)	1.00091 (10)	213	21.3
PMF-037_CAS9	1.00000 (370)	0.99783 (10)	0.99964 (10)	181	18.1



Ident	Exp. Val. ( $\sigma$ )	JEFF32 ( $\sigma$ )	JEFF33T1 ( $\sigma$ )	$\Delta = J33-J32$	$\Delta/\bar{\sigma}$
PSTH-001_CAS1	1.00000 (500)	1.00178 (11)	1.00101 (11)	-77	7
PSTH-001_CAS2	1.00000 (500)	1.00354 (11)	1.00287 (11)	-67	6.09
PSTH-001_CAS3	1.00000 (500)	1.00651 (11)	1.00588 (11)	-63	5.73
PSTH-001_CAS4	1.00000 (500)	1.00047 (11)	1.00046 (11)	-1	0.0909
PSTH-001_CAS5	1.00000 (500)	1.00489 (11)	1.00416 (11)	-73	6.64
PSTH-001_CAS6	1.00000 (500)	1.00716 (11)	1.00788 (11)	72	6.55
PSTH-004_CAS11	1.00000 (470)	0.99654 (11)	0.99592 (11)	-62	5.64
PSTH-004_CAS2	1.00000 (470)	0.99536 (11)	0.99439 (11)	-97	8.82
PSTH-004_CAS3	1.00000 (470)	0.99719 (11)	0.99640 (11)	-79	7.18
PSTH-004_CAS5	1.00000 (470)	0.99616 (11)	0.99563 (11)	-53	4.82
PSTH-004_CAS6	1.00000 (470)	0.99794 (11)	0.99720 (11)	-74	6.73
PSTH-004_CAS8	1.00000 (470)	0.99789 (11)	0.99695 (11)	-94	8.55
PSTH-016_CAS1	0.99800 (430)	1.00296 (9)	1.00311 (9)	15	1.67
PSTH-016_CAS2	0.99800 (430)	1.00307 (9)	1.00313 (9)	6	0.667
PSTH-016_CAS3	0.99800 (430)	1.00376 (9)	1.00394 (9)	18	2
PSTH-016_CAS4	0.99800 (430)	1.00375 (9)	1.00374 (9)	-1	0.111
PSTH-016_CAS5	0.99800 (430)	1.00200 (9)	1.00139 (9)	-61	6.78
PSTH-016_CAS6	0.99800 (430)	1.00224 (9)	1.00210 (9)	-14	1.56
PSTH-016_CAS7	0.99800 (430)	1.00256 (9)	1.00243 (9)	-13	1.44