

(1) status of publications

- peer reviewed journals
 - pending papers from phase 1
- conference contributions
- n_TOF member of the year

published in 2013

- [78] C. Lederer, C. Massimi, and the n_TOF Collaboration,
Neutron capture cross section of unstable ^{63}Ni : implications for stellar nucleosynthesis,
Phys. Rev. Lett., 110:022501 (2013)
- [79] G. Tagliente and the n_TOF Collaboration,
 ^{93}Zr (n, g) cross section up to 8 keV neutron energy,
Phys. Rev. C, 87:014622 (2013)
- [80] C. Guerrero and the n_TOF collaboration,
Performance of the neutron Time-of-Flight facility n_TOF at CERN,
Eur. Phys. J. A, 49:27 (2013)
- [81] F. Belloni, M. Calviani, N. Colonna, P. Mastinu, P.M. Milazzo,
and the n_TOF Collaboration,
*Measurement of the neutron induced fission cross section of ^{241}Am at the
time-of-flight facility n_TOF*
Eur. Phys. J. A, 49:2 (2013)
- [82] C. Weiss, E. Griesmayer, C. Guerrero, and the n_TOF collaboration,
*A new CVD diamond mosaic-detector for (n, α) cross-section measurements
at the n_TOF experiment at CERN*,
Nucl. Instr. Meth. A, online 2 August 2013,
<http://www.sciencedirect.com/science/article/pii/S0168900213010498>

submitted in 2013

- [83] M. Barbagallo, C. Guerrero, A. Tsinganis, D. Tarrío and the n_TOF Coll.,
High-accuracy determination of the neutron flux at n_TOF,
Eur. Phys. J. A, submitted May 2013
- [84] D. Tarrío, L.S. Leong, L. Audouin and the n_TOF Collaboration,
*Measurement of the angular distribution of fission fragments using a PPAC assembly
at CERN n_TOF,*
Eur. Phys. J. A, submitted May 2013
- [85] M. Barbagallo, C. Guerrero, A. Tsinganis, D. Tarrío and the
n_TOF Collaboration,
High-accuracy determination of the neutron flux at n_TOF,
Eur. Phys. J. A, submitted May 2013
- [86] D. Tarrío, L.S. Leong, L. Audouin and the n_TOF Collaboration,
*Measurement of the angular distribution of fission fragments using a PPAC assembly
at CERN n_TOF,*
Eur. Phys. J. A, submitted May 2013

submitted in 2013

- [87] P. Zugec, M. Barbagallo, N. Colonna, D. Bosnar, and the n_TOF Collaboration,
Experimental neutron capture data of ^{58}Ni from n_TOF,
Phys. Rev. C, submitted August 2013
- [88] D. Karadimos, R. Vlastou, K. Ioannidis, and the n_TOF Collaboration,
Neutron-induced fission cross section of ^{234}U at the CERN n_TOF facility,
Phys. Rev. C, submitted December 2013
- [89] C. Lederer, C. Massimi, N. Colonna, and the n_TOF Collaboration,
 $^{62}\text{Ni}(n, \gamma)$ and $^{63}\text{Ni}(n, \gamma)$ cross sections measured at n_TOF/CERN,
Phys. Rev. C, submitted December 2013
- [90] K. Fraival, F. Gunsing, and the n_TOF Collaboration,
Measurement and analysis of $^{241}\text{Am}(n, \gamma)$ cross section with C_6D_6 detectors at the n_TOF facility at CERN,
Phys. Rev. C, submitted December 2013

promised to come soon

- [91] E. Mendoza, C. Cano Ott, C. Guerrero, and the n_TOF Collaboration,
Pulse pile-up and dead time correction methods applied to the digitized signals of a segmented BaF₂ Total Absorption Calorimeter used in (n, γ) cross section measurements,
Nucl. Instr. Meth. A (to EB in December 2013)
- [92] E. Mendoza, C. Cano Ott, C. Guerrero, and the n_TOF Collaboration,
Measurement and analysis, of the ²⁴³Am neutron capture cross section,
Phys Rev C. (to EB in January 2014)
- [93] M. Diakaki, R. Vlastou, and the n_TOF Collaboration,
The ²³⁷Np(n,f) cross section with FIC...
(to EB in spring 2014)
- [94] C. Guerrero, C. Cano Ott, E. Mendoza, and the n_TOF Collaboration,
New resonant capture cross section of ²⁴⁰Pu,
Phys Rev C. (to EB in May 2014)

pending from n_TOF Phase 1

^{233}U	(n, g), TAC	Berthoumieux:	summer 2013
^{234}U	(n, g), TAC	Berthoumieux:	summer 2013
^{240}Pu	(n, g), TAC	Cano-Ott/Guerrero:	summer 2013
^{243}Am	(n, g), TAC	Mendoza/Cano-Ott:	spring 2013
$^{232}\text{Th}/^{233}\text{U}$	(n, f), PPAC	Paradela/Tassan-Got:	summer 2012

conference proceedings in 2013

WONDER-2012 – 3rd International Workshop On Nuclear Data Evaluation for Reactor applications, September 25-28, 2012, Aix-en-Provence, France

- C. Guerrero, E. Mendoza, E. Berthoumieux, D. Cano-Ott, E. González-Romero, and M. Sabate on behalf of the n_TOF Collaboration,
Neutron capture and fission reactions on ^{235}U : cross sections, alpha-ratios and prompt gamma-ray emission from fission,
Eur. Phys. J. Web of Conferences 42 (2013) 01002
- C. Guerrero on behalf of the n_TOF Collaboration,
Review of the n_TOF experimental program for Reactor Applications,
Eur. Phys. J. Web of Conferences 42 (2013) 07001

International Conference on Applications of Accelerators in Research and Industry (CAARI 2012), Fort Worth, TX, USA, August 5-10, 2012

- N. Colonna for the n_TOF Collaboration
Neutron research at the n_TOF facility (CERN): Results and perspectives (invited),
AIP Conference Proceedings 1525, 570 (2013); doi: 10.1063/1.4802393,
<http://dx.doi.org/10.1063/1.4802393>, (AIP Publishing, Melville, New York, 2013)

conference contributions in 2013

International Nuclear Physics Conference (INPC2013), June 2-7, 2013, Florence, Italy

- C. Massimi and the n_TOF Collaboration

The nucleosynthesis of heavy elements in stars: the key isotope ^{25}Mg

- E. Leal-Cidoncha, I. Durán, C. Paradela, D. Tarrío, L. Audouin, L.-S. Leong, L. Tassan-Got, and the n_TOF Collaboration

Study of fission fragment angular distribution (FFAD) at the CERN n_TOF facility

- M. Barbagallo and the n_TOF Collaboration,

Measurements of neutron cross sections for advanced nuclear energy systems at n_TOF (CERN)

- F. Mingrone and the n_TOF Collaboration,

$^{238}\text{U}(n, g)$ reaction cross section measurement with C_6D_6 detectors at the n_TOF CERN facility

2013 IEEE Nuclear Science Symp. and Medical Imaging Conference (2013 NSS/MIC), Oct 27- Nov. 11, 2013, Seoul, South Korea

- E. Aza, E. Berthoumieux, C. Guerrero, F. Murtas, S. Puddu, M. Silari

Neutron beam profile measurements with a triple GEM for thermal neutrons at the CERN n_TOF facility

Int. Conf. on Nuclear Data for Science and Technology, March 4-8, 2013, New York, USA

- M. Barbagallo and the n_TOF collaboration
Results on the ^{236}U neutron capture cross section from the n_TOF facility
- F. Belloni and the n_TOF collaboration, A Micromegas detector for neutron beam imaging at the n_TOF facility at CERN
- E. Berthoumieux and the n_TOF collaboration
MicroMegas detector development for measurements at neutron time-of-flight facilities
- D. Cano Ott, E. Berthoumieux, C. Guerrero, E. Mendoza and the n_TOF collaboration
Measurement of the neutron capture cross section of the fissile isotope ^{235}U with the CERN n_TOF Total Absorption Calorimeter and a fission tagging based on micromegas detectors
- C. Carrapico and the n_TOF collaboration
Resonance parameter analysis of the ^{233}U capture cross section measured at n_TOF
- E. Chiaveri and the n_TOF collaboration
The n_TOF neutron beams: present and future performance for neutron cross section measurements
- K. Fraval and the n_TOF Collaboration
Analysis of $^{241}\text{Am}(n, g)$ cross section with C_6D_6 detectors at the n_TOF facility (CERN)
- C. Guerrero on behalf of the n_TOF Collaboration
Investigation of neutron-induced reactions at n_TOF: overview of the 2009-12 experimental program
- F. Gunsing et al.,
Spin measurements of neutron resonances of ^{87}Sr for level density studies
- E. Leal-Cidoncha, I. Durán, C. Paradela, D. Tarrío, L. Audouin, L.-S. Leong, L. Tassan-Got, and the n_TOF Collaboration
Study of neutron-induced fission resonances in ^{234}U measured at the CERN n_TOF facility
- C. Lederer on behalf of the n_TOF Collaboration
Neutron capture reactions for the astrophysical s-process in the Fe/Ni region

ND2013 continued

- L.S. Leong, L. Tassan-Got, C. Paradela, L. Audouin, J.N. Wilson, D. Tarrío, I. Durán, C. Le Naour, C. Stéphan, and the n_TOF Collaboration
Validation of cross sections with criticality experiment and reaction rates: the neptunium case
- C. Massimi and the n_TOF Collaboration
New measurement of the $^{25}\text{Mg}(n, \gamma)$ reaction cross section
- E. Mendoza, D. Cano-Ott, C. Guerrero, and the n_TOF collaboration
Measurement of the ^{241}Am and the ^{243}Am neutron capture cross sections at the n_TOF facility at CERN
- F. Mingrone and the n_TOF collaboration
Measurement of the ^{238}U radiative capture cross section with C6D6 detectors at the CERN n_TOF facility
- D. Tarrío, I. Durán, C. Paradela, L. Audouin, L-S. Leong, L. Tassan-Got, and the n_TOF Collaboration
Fission fragment angular distribution for $^{232}\text{Th}(n,f)$ at the CERN n_TOF facility
- A. Tsinganis, M. Calviani, E. Berthoumieux, S. Andriamonje, N. Colonna, C. Guerrero, F. Gunsing, C. Massimi, V. Vlachoudis, R. Vlastou, and the n_TOF collaboration
Measurement of the $^{240,242}\text{Pu}(n,f)$ cross section at the CERN n_TOF facility
- C. Weiss and the n_TOF collaboration
The (n, a) reaction in the s-process branching point ^{59}Ni
- C. Weiss and the n_TOF collaboration
A CVD diamond detector for (n, a) cross-section measurements
- T. Wright and the n_TOF collaboration
High-precision measurement of the $^{238}\text{U}(n,\gamma)$ cross section with the Total Absorption Calorimeter (TAC) at n_TOF, CERN

**4th Workshop on Nuclear Level Density and Gamma Strength,
May 29, 2013, Oslo, Norway**

- F. Gunsing, *Time-of-flight measurements at n_TOF CERN*

Thorium Energy Conference, October 30, 2013, Geneva, Switzerland

-F. Gunsing and the n_TOF Collaboration,
Nuclear Data for the Thorium fuel Cycle and Transmutation

European Energy Conf. E2C2013, October 27-30, Budapest, Hungary

- M. Barbagallo and the n_TOF Collaboration,
Neutron cross sections for advanced nuclear systems: the n_TOF project at CERN
- F. Mingrone and the n_TOF Collaboration,
Measurement of radiative capture cross section on ^{238}U at the n_TOF CERN facility

**XI Int. Topical Meeting on Nuclear Applications of Accelerators,
AccApp 2013, August 2013, Bruges, Belgium**

- G. Tagliente and the n_TOF Collaboration,
Neutron studies for advanced reactors at n_TOF (CERN)

XCIX Congresso della Società Italiana di Fisica, September 2013, Trieste, 26, Italy

- P.M. Milazzo and the n_TOF Collaboration,

Misura di sezioni d'urto neutroniche per l'astrofisica nucleare e per le tecnologie nucleari presso n_TOF al CERN

- F. Mingrone and the n_TOF Collaboration,

Neutron cross sections in stellar nucleosynthesis: study of the key isotope ^{25}Mg

Erinda 2013 Workshop, 1-3 October 2013, CERN

- Esther Leal and the n_TOF Collaboration,

Study of fission fragment angular distribution of $^{234}\text{U}(n,f)$ at the CERN n_TOF facility

- E. Mendoza and the n_TOF Collaboration,

Measurement of the neutron capture cross section of the fissile isotope ^{235}U with the CERN n_TOF Total Absorption Calorimeter and a fission tagging based on MGAS detectors

NEMEA7/CIELO Workshop, 5-8 November 2013, Geel, Belgium

- Carlos Paradela and the n_TOF Collaboration,

Fission cross sections measured at n_TOF with PPACs

- D. Cano Ott and the n_TOF Collaboration,

Measurement of the $^{241}\text{Am}(n, \gamma)$ cross section at the CERN n_TOF facility

peer reviewed publications

- total : 82
- 2013: 5
- submitted: 8

conference contributions

- total 147
- 2013 36

PhD theses

- total : 26
- 2013: 3

- ★ Phys. Rev. Lett. 2013
- ★ Phys Rev. C (2013)
- ★ Victor Hess award
for excellent dissertation
- ★ Schrödinger fellowship
Austrian Science Fund
- ★ Adolf Messer award
for innovative research



(2) actinde samples from Munich

Fall 2011: Gunther Korschinek offers samples

Dec 2012: renewed interest from n_TOF

Jan 2013: samples meanwhile in radiochemistry
new contact Dr. Lierse (+49 89 2891 2303)

Feb. 21: Tel call, problem explained by email

March - May: many unsuccessful attempts....., but finally

MEETING at RCM Munich, June 28, 2013
Lierse, Stöwer (RCM) and Chiaveri, FK

materials are metals, oxides, fluorides or nitrates,
physical form powder or metal, partly melted residuals

244Cm	3 mg	238Pu	94
243Am	1	240Pu	300
241Am	200	239Pu	50
		242Pu	20
		244Pu	10
237Np	200		
234U	80	231Pa	200
235U	1000		
236U	100	232Th	1000
238U	some 1000		

Results of meeting:

RCM agrees to let actinide samples specified by G. Korschinek under the following conditions:

- Handling charge (ca. 2-3000 € for characterization and preparation of shipment)
- Shipment and final disposal under the responsibility of n_TOF
- RCM offers ^{248}Cm material from decay of ^{252}Cf , chemical separation of residual Cf and Pu at RCM possible

Actions:

- RCM provides available documentation by the end of August 2013.
- Selection of samples during the annual n_TOF meeting (Nov 13)
- Samples ready for shipment by the end of 2013.

Status as of Nov. 20:
16 samples documented by now