

ERINDA Workshop 2013

Tuesday, 1 October 2013 - Thursday, 3 October 2013

CERN



Book of Abstracts

Contents

Welcome by Prof. Rolf Heuer (CERN's Director General) 21	1
Welcome by Dr Enrico CHIAVERI 22	1
ERINDA scientific results: Transnational Access Activities, Scientific Visits 23	1
Measurement of the energy spectrum from the new neutron source planned for IGISOL 24	1
An intense D-T Fusion source, "The New Sorgentina" 25	1
Preparations of fission experiments at nELBE 26	1
Neutron total cross sections measured at nELBE 27	1
An outlook on "Physics at the new CERN neutron beam line" 28	2
Measurements of prompt fission gamma-rays and neutrons with lanthanide halide scintillation detectors 29	2
Measurements of prompt gamma-rays from fast-neutron induced fission with the LICORNE directional neutron source 30	2
Study of fission fragment angular distribution of $^{234}\text{U}(n,f)$ at the CERN n_TOF facility 31	2
Measurement of the $^{240,242}\text{Pu}(n,f)$ cross section at the CERN n_TOF facility 32	2
Measurement of the isomeric yield ratios of fission products with the JYFLTRAP 33	2
Measurement of cross-sections of Yttrium (n,xn) threshold reactions by means of gamma spectroscopy 34	3
Studies of (n,xn) cross-section in useful neutron activation detector material by the activation method 35	3
Attempts to infer the neutron inelastic cross sections using charged particle induced reactions 36	3
^{241}Am : a difficult actinide for (n,g) cross section measurement 37	3
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 38	3
Dipole strength in Xenon isotopes 39	3

Importance of nuclear triaxiality for electromagnetic strength, level density and neutron capture cross sections in heavy nuclei 40	4
Strength function from the $^{113}\text{Cd}(n,g)$ reactions 41	4
Status of the general description of fission observables by the GEF code 42	4
Detailed study of the scission-neutron angular distribution 43	4
Implementation of an analytical model accounting for sample inhomogeneities in REFIT 44	4
Measurement of the differential neutron-deuteron scattering cross section in the energy range from 100 keV to 600 keV using a proportional counter 45	4
Transmutation of nuclear waste: Basics, Methods, Perspectives 46	5
CHANDA - A Pan-European Effort to Solve present Challenges in Nuclear Data for Nuclear Safety 47	5
Nuclear Fission Reactor Safety Research in FP7 and future perspectives 48	5
Closing remarks 49	5
^{241}Am : A difficult actinide for (n,g) cross section measurement 50	5
Design of neutron converter for measurement of neutron induced independent fission yields 51	5
inelastic scattering of fast neutrons from excited states in ^{56}Fe 52	6
Studies of (n,xn) cross-section in useful neutron activation detector material by the activation method 53	6
status of the high intensity neutron source FRANZ 54	6
Visit of CERN installations 65	6
Welcome by Prof. Rolf HEUER (CERN's Director General) 66	6

21

Welcome by Prof. Rolf Heuer (CERN's Director General)

Corresponding Author: rolf.heuer@cern.ch

22

Welcome by Dr Enrico CHIAVERI

Corresponding Author: enrico.chiaveri@cern.ch

Session 1 / 23

ERINDA scientific results: Transnational Access Activities, Scientific Visits

Corresponding Author: franz-josef.hambsch@ec.europa.eu

Session 1 / 24

Measurement of the energy spectrum from the new neutron source planned for IGISOL

Corresponding Author: andrea.mattera@gmail.com

Session 1 / 25

An intense D-T Fusion source, "The New Sorgentina"

Corresponding Author: mario.pillon@enea.it

Session 1 / 26

Preparations of fission experiments at nELBE

Corresponding Author: t.koegler@hzdr.de

Session 1 / 27

Neutron total cross sections measured at nELBE

Corresponding Author: r.hannaske@googlemail.com

Session 1 / 28

An outlook on "Physics at the new CERN neutron beam line"

Corresponding Author: carlos.guerrero@cern.ch

Session 2 / 29

Measurements of prompt fission gamma-rays and neutrons with lanthanide halide scintillation detectors

Corresponding Author: andreas.oberstedt@ossolutions.eu

Session 2 / 30

Measurements of prompt gamma-rays from fast-neutron induced fission with the LICORNE directional neutron source

Corresponding Author: wilson@ipno.in2p3.fr

Session 2 / 31

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

Corresponding Author: esther.leal@rai.usc.es

Session 2 / 32

Measurement of the $^{240,242}\text{Pu}(n,f)$ cross section at the CERN n_TOF facility

Corresponding Author: andrea.tsinganis@cern.ch

Session 2 / 33

Measurement of the isomeric yield ratios of fission products with the JYFLTRAP

Corresponding Author: dmitry.a.gorelov@jyu.fi

Session 2 / 34

Measurement of cross-sections of Yttrium (n,xn) threshold reactions by means of gamma spectroscopy

Corresponding Author: chudoba@ujf.cas.cz

Session 2 / 35

Studies of (n,xn) cross-section in useful neutron activation detector material by the activation method

Corresponding Authors: wagner@ujf.cas.cz, wagner.cern@seznam.cz

Session 2 / 36

Attempts to infer the neutron inelastic cross sections using charged particle induced reactions

Corresponding Author: alexandru.liviu.negret@cern.ch

37

^{241}Am : a difficult actinide for (n,g) cross section measurement

Corresponding Authors: m.rossbach@fz-juelich.de, c.genreith@fz-juelich.de

Session 3 / 38

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

Corresponding Author: enrique.gonzalez@ciemat.es

Session 3 / 39

Dipole strength in Xenon isotopes

Corresponding Author: r.massarczyk@hzdr.de

Session 3 / 40

Importance of nuclear triaxiality for electromagnetic strength, level density and neutron capture cross sections in heavy nuclei

Corresponding Author: e.grosse@tu-dresden.de

Session 3 / 41

Strength function from the $^{113}\text{Cd}(n,g)$ reactions

Corresponding Author: belgya.tamas@energia.mta.hu

Session 3 / 42

Status of the general description of fission observables by the GEF code

Corresponding Author: jurado@cenbg.in2p3.fr

Session 3 / 43

Detailed study of the scission-neutron angular distribution

Corresponding Author: carjan@in2p3.fr

Session 4 / 44

Implementation of an analytical model accounting for sample inhomogeneities in REFIT

Corresponding Author: kim-josepha.kauwenberghs@ec.europa.eu

Session 4 / 45

Measurement of the differential neutron-deuteron scattering cross section in the energy range from 100 keV to 600 keV using a proportional counter

Corresponding Author: ralf.nolte@ptb.de

Session 4 / 46

Transmutation of nuclear waste: Basics, Methods, Perspectives

Corresponding Author: a.junghans@fz-rossendorf.de

Session 4 / 47

CHANDA - A Pan-European Effort to Solve present Challenges in Nuclear Data for Nuclear Safety

Corresponding Author: enrique.gonzalez@ciemat.es

Session 4 / 48

Nuclear Fission Reactor Safety Research in FP7 and future perspectives

Corresponding Author: roger.garbil@ec.europa.eu

Session 4 / 49

Closing remarks

Corresponding Authors: a.junghans@fz-rossendorf.de, enrico.chiaveri@cern.ch

Session 3 / 50

^{241}Am : A difficult actinide for (n,g) cross section measurement

Corresponding Author: m.rossbach@fz-juelich.de

Session 1 / 51

Design of neutron converter for measurement of neutron induced independent fission yields

Corresponding Author: mattias.lantz@physics.uu.se

Session 2 / 52

inelastic scattering of fast neutrons from excited states in ^{56}Fe

Corresponding Author: r.schwengner@hzdr.de

53

Studies of (n, xn) cross-section in useful neutron activation detector material by the activation method

Corresponding Author: wagner.cern@seznam.cz

Session 4 / 54

status of the high intensity neutron source FRANZ

Corresponding Author: claudia.lederer@ed.ac.uk

65

Visit of CERN installations

Session 1 / 66

Welcome by Prof. Rolf HEUER (CERN's Director General)

Corresponding Author: rolf.heuer@cern.ch