ILIAS SAVVIDIS
Associated Professor
Physics Department,
Aristotle University of Thessaloniki, Greece

Personal Data

Birth: Thessaloniki, 13-Februrary 1957
Mailing address: Physics Dept., University of Thessaloniki, 54124 Greece
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Academic degrees

Graduate in Physics Aristotle University of Thessaloniki, 19780

Ph.D.-Thesis Aristotle University of Thessaloniki, 1990

Scientific Experience
Scientific researcher in Physics Department, in the period 1980-1990.
Lecturer in Physics Department, in the period 1990 -1995.
Assistant Professor 1995-2008 and
Associated Professor, 2008- today

Teaching Experience

Atomic - Molecular Physics
2nd semester, Physics Dept., A.U.Th, 1990 – 2010

Atomic - Molecular Physics Lab
3rd semester, Physics Dept., A.U.Th, 1982 – 2010

Nuclear Physics Lab
6th & 8th semester, Physics Dept., A.U.Th, 1982 – 2010

Nuclear reactor physics
7th semester, Physics Dept., A.U.Th, 2000 – 2010

Energy production
7th semester, Physics Dept., A.U.Th, 2000 – 2010

Advisor Experience

Supervisor for two Phd thesis
Member of the supervising committees for one PhD

Research

1. Nuclear track tetectors development for radon detection.
2 .Neutron detection and neutron dosimetry, using nuclear track detectors.
3 .Development of an electronic (real time) neutron dosemeter using Si detectors and Li-6 converter, in collaboration with the LEPOFI laboratory in the University of Limoges(1990-1992).
4. PS211 (energy amplifier) project at CERN, experimental verification of neutron phenomenology in lead and of transmutation by adiabatic resonance crossing in accelerator driven systems (1996-2000).
5 . n_TOF experiment at CERN (2001-2006). Neutron time of flight facility for cross section studies.
6. CAST experiment at CERN CAST is an axion helioscope and it is searching for axions coming from the sun.
7. Development of a large volume (1m3) spherical proportional counter to measure low energy neutrinos and low flux thermal and fast neutrons in underground laboratories (Collaboration with the CEA, Saclay).
The are three prototypes:
The first is in the underground laboratory (LSM) in Modane (France), measuring the low flux thermal neutrons. The second in CEA, for very low energy (few hundred eV) x-ray detection and a third one under construction in Aristotle University of Thessaloniki, for low energy Ar recoils detection.
A new sphere is now developing in CEA, with low radiation materials, for low energy neutrino detection.

List of publications

A1. The Response of Cellulose Nitrate to Gamma Radiation.
M. Zamani, E. Savvides and Stef. Charalambous
Nucl. Tracks, Vol. 4, pp171-176, 1980

A2. A Simple Device for Measuring Radon Exhalation from the Ground.
E. Savvides, M. Manolopoulou , C. Papastefanou and St. Charalambous
Int. J. Appl. Radiat. Isot. Vol. 36, pp79-81, 1985.

A3. Natural Radiation Dose in Petralona Cave.
C. Papastefanou, M. Manolopoulou, E. Savvides and St. Charalambous.
Health Physics Vol. 50, N_02, pp281-286, 1986.

A4. Gamma Dose Discrimination Properties of SSNT Detectors.
M. Zamani, E. Savvides, J. Petrakis and St. Charalambous.
Nucl. Tracks, Vol.12, pp141-144, 1986.

A5. Radon Monitoring at the Stivos Fault Following the ML = 6.5 Earthquake which Occurred at Thessaloniki, Greece, on 20 June 1978.
C. Papastefanou, M. Manolopoulou, E. Savvides and St. Charalambous.
Nucl. Geophys. Vol.3, pp.49-56,1989.

A6. Temperature Effects on Registration Properties of CN-85.

E. Savvides, M. Christodoulou, M. Zamani and St. Charalambous.
Nucl. Tracks, Vol. 12, pp 145-148, 1986.

A7. An Approach to Fast and Thermal Neutron Spectroscopy Based on $^{6}Li(n,\alpha)^{3}H$ Reaction.
E. Savvides, M. Zamani and St. Charalambous.
Nucl. Tracks, Vol.15, pp 495-498, 1988.

A8. Συμβολή στη Φασματοσκοπία Νετρονίων με Πλαστικούς Ανιχνευτές Ιχνών.
Διδακτορική Διατριβή, Παναπιστήμιο Θεσσαλονίκης 1990.

A9. Thermal and Fast Neutron Detection in a Polyenergetic Field of Neutrons.
E. Savvides, M. Zamani and St. Charalambous.
Radiat. Prot. Dosim. vol. 34 No.1/4 pp.331-333, 1990.

A10. Effects of Thermal Treatment on Alpha Registration on CN-85 and CR-39 Detectors.
E. Savvidis, E. Anthaki, G. Parissoglou, M. Zamani and St. Charalambous.
Nucl. Tracks Radiat. Meas. vol. 19, No.1-4, pp.115-116, 1991.

A11. Fast Neutron Detection Using (n-α),(n-p) Converter
E. Savvidis, M. Zamani, D. Sampsonidis and St. Charalambous.
Nucl. Tracks Radiat. Meas. Vol. 19, No. 1-4, pp.527-530, 1991

A12. A CR-39 Fast Neutron Dosemeter Based on an (n,α) Converter
E.Savvidis, D.Sampsonidis and M.Zamani.
Radiat. Prot. Dosim. Vol. 44, No.1/4, pp.341-342, 1992.

A13. A Passive Neutron Dosemeter Based on a CR-39 Track Detector with multi-field evaluation.
E.Savvidis, W.G.Alberts, M.Luszic-Bharda and M.Zamani.
Nucl. Instr. and Meth.B vol.94,pp325-329,1994.

A14. An Individual Neutron Dosemeter with (n.α) (n,p) Converter.
M. Zamani, D. Sampsonidis and E. Savvidis.
Radiat. Meas. 26, 1, pp87-92(1996)

A15. A real time personal neutron dosemeter based on PIPS diodes and double layer neutron converter.
Zamani M. and Savvidis E.
Radiat. Prot. Dosim. 63, 4, pp299-303(1996)

A16. Advanced detectors for active neutron dosemeters.
J.C. Vareille,…. E. Savvidis,…
Radiat. Prot. Dosim. 70, pp79-82(1997)

A17. Efficiencies of an SSNTD and an electronic neutron dosemeter with the same (n,α) (n,p) converter.

Savvidis and M. Zamani
Radiat. Prot. Dosim. 70, pp 83-86(1997)

A18. A decommissioned LHC model magnet as an Axion telescope.
Zioutas K.,….., Savvidis E. (27 authors)
Nucl. Instr. and Meth. A425, pp. 79-82(1999).

A19. Experimental verification of neutron phenomenology in lead and transmutation by adiabatic resonanse crossing in accelerator driven systems.
Arnould H.,…., Savvidis E.
Physics Letters B458(1999)167-180.

A20. Experimental verification of neutron phenomenology in lead and transmutation by adiabatic resonanse crossing in accelerator driven systems.
A summery of the TARC project at CERN
Arnould H.,…., Savvidis E.
Nucl. Instr. and Meth. A463 ,(2001)pp. 586-592

A21. Mapping of the thermal neutron distribution in the lead block assebly of the PS-211 experiment at CERN, using thermoluminecence and nuclear track detectors.
Savvidis, E., Eleftheriadis,C.A. and Kitis, G.
Radiat. Prot. Dosim. 101(2002), 103-106.

A22. Results from the TARC experiment: spallation neutron phenomenology in lead and neutron – driven nuclear transmutation by adiabatic resonance crossing.
A. Abanades, …, E. Savvidis, …
Nucl. Instr. and Meth. A 478(2002) 577-730

A23. The CERN Axion solar telescope(CAST):Status and prospects
I.G. Irastorza,…, E. Savvidis, …
Nucl. Phys. Proc. Suppl. 114(2003) 75-80

A24. The CERN Axion solar telescope(CAST)
C.A. Aalseth,…, E. Savvidis, ….
Nucl. Phys. B. Proc. Suppl. 110(2002) 85-87

A25. A low-Mass Neutron Flux Monitor for the n_TOF Facility at CERN
P.F. Mastinu, ….., E. Savvidis.
Brazilian Journal of Physics, vol. 34, no. 3A, September, 2004

A26. Measurments of the n_TOF beam profile with a micromegas detector.
J. Pancin,…..,E. Savvidis,…
Nucl. Instr. and Meth. A 524(2004)102-114

A27. Time-energy relation of the n_TOF neutron beam: energy standards revisited.

G. Lorusso,……, E. Savvidis,….
Nucl. Instr. and Meth. A 532 (2004).

A28. New experimental validation of the pulse height weighting technique for capture cross-section measurements.
U. Abbondano,…., E. Savvidis,….
Nucl. Instr. and Meth. A521(2004) 454-467.

A29. First results from the CERN Axion Solar Telescope (CAST).
K. Zioutas,……., I. Savvidis,…..
Phys. Rev. Letters 94, 121301 (2005)

A30. New measurements of neutron capture resonances of ^{209}Bi
C. Domingo-Pardo,…., I. Savvidis
Phys. Rev. C74,025807(2006)

A31 Neutron capture cross section of ^{232}Th measured at the n_TOF facility at CERN in the unresolved resonance region up to 1 MeV
G. Aerts,…., I. Savvidis
Phys. Rev. C73, 054610(2006)

A32. Progress on a spherical TPC for low energy neutrino detection.
S. Aune,….., I. Savvidis
J. Phys. Conf. ser. 39:281-283,2006.

A33. Resonance capture cross section of ^{207}Pb
C. Domingo-Pardo,…., I. Savvidis
Phys. Rev. C 74: 055802,2006

A34. Measurements of the neutron capture cross section of the s-only isotope ^{204}Pb from 1eV to 440 keV.
C. Domingo-Pardo,…., I. Savvidis
Phys. Rev. C75:0158806,2007

A35. The ^{139}La(n,γ) cross section: key for the onset of the s process
R. Terlizzi, ….., I. Savvidis
Phys. Rev. C75:035807,2007

A36. n_TOF experiment: neuron beam profile and fast neutron background detection, using passive neutron detector.
I. Savvidis, C. Lampoudis, G. Kitis, C. Eleftheriadis, The n_TOF Collaboration.
Radiation Measurements 42 (9), pp. 1492-1498(2007)

A37. First results from the CAST experiment
T. Dafni, ,I. Savvidis
J. Phys. Conf. ser. 39(2006) 117-119.

A38. Neutron reactions and nuclear cosmo-chronology
M. Mosconi, . ,I. Savvidis
Progress in Particle and Nuclear Physics (2007)
Doi:10.1016/j.ppnp.2006.12.014

A39. An improved limit on the axion-photon coupling from the CAST experiment.
S. Andriamonje, ….,I. Savvidis
Journal of Cosmology and Astroparticle Physics 04(2007)010

A40. Neutron cross section measurements at n_TOF for ADS related studies.
P F Mastinu, ….., I Savvidis, ..
Journal of Physics: Conf. ser.41(2006)32-360

A41. Measurement of the radiative neutron capture cross section of ^{206}Pb and its astrophysical implications.
C. Domingo-Pardo,….., I. Savvidis, ….et al.
Phys. Rev. C76,045805 (2007)

A42. Status and outlook of the neutron time-of-flight facility n_TOF at CERN
F. Gunsing,…..I. Savvidis,…
Nucl. Instr. and Meth. B 261(2007)925-929

A43. Neutron capture cross section of ^{90}Zr Bottleneck in the s-process reaction flow
G. Tagliene,……., I. Savvidis,..
Phys. Rev. C77,035802(2008)

A44. The measurement of the ^{206}Pb(n, γ) cross section and stellar implications
C Domingo-Pardo,…, I. Savvidis,…
J. Phys. G: Nucl. Part. Phys. **35** 014020(2008)

A45**.** Nuclear physics for the Re/Os clock
M Mosconi,….,I. Savvidis,..
J. Phys. G: Nucl. Part. Phys. **35** 014015 (2008)

A46**.** A novel large-volume Spherical Detector with Proportional Amplification read-out
I. Giomataris1, I. Irastorza2, I. Savvidis3, S. Andriamonje1, S. Aune1, M. Chapelier1, Ph. Charvin1, P. Colas1, J. Derre1, E. Ferrer1, M. Gros1, X.F. Navick1, P. Salin4 , J. D. Vergados5
2008 JINST 3 P09007

A47. Experimental study of the 91Zr(n, γ) reaction up to 26 keV
G. Tagliente, .. I. Savvidis,…
PHYSICAL REVIEW C 78, 045804 (2008)

A48. Probing eV-scale axions with CAST
E. Arik, …, I. Savvidis,… (CAST Collaboration),
Journal Cosmology and Astroparticle, JCAP 02 (2009) 008

A49. The ^{92}Zr(n;) reaction and its implications on stellar nucleosynthesis
G. Tagliente,…, I. Savvidis,..
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A50. Search for solar axion emission from 7Li and D(p, γ)3He nuclear

decays with the
CAST γ-ray calorimeter
S. Andriamonje,… I. Savvidis
JCAP 1003:032,2010

A51. High-accuracy $^{233}U(n,f)$ cross-section measurement at the white-neutron source n TOF from near-thermal to 1 MeV neutron energy
PHYSICAL REVIEW C 80, 044604 (2009)
M. Calviani,….., I. Savvidis,…

A52. Search for 14.4 keV solar axions emitted in the M1-transition of 57Fe nuclei with CAST
Journal of Cosmology and Astroparticle Physics 2009
S. Andriamonje,… I. Savvidis

A53. The n_TOF Total Absorption Calorimeter for neutron capture measurements at CERN
Nucl.Instrum.Meth.A608:424-433,2009
C. Guerrero,…,I. Savvidis,..

A54. Spherical TPC development and trends.
S. Andriamonje , ..., *I. Savvidis,....*.
Published in J.Phys.Conf.Ser.179:012003,2009.

Intrnational Conferances

B1. Exposure from Radon and Radon Daughters in Dwellings.
Proceedings of the 3rd International Conference on Indoor Air Quality and Climate,
C. Papastefanou, M. Manolopoulou, E. Savvides and St.Charalambous
Stockholm August, 1984, Vol. 2, pp 55-59.

B2. The Response of a Passive Neutron Desemeter Based on CR-39 Nuclear Track Detector in a Real Neutron Field
Zamani M. Sampsonidis D, and Savvidis E.
11th Inter. Conf. on Solid State Dosimetry Budapest, July 1995

B3. Separation of Albedo Neutron Component of a CR-39 Neutron Dosemeter During on Phantom Irradiation
Savvidis E, Sampsonidis D, and Zamani M.
11th Inter. Conf. on Solid State Dosimetry Budabest, July 1995.

B4. Mapping of the thermal neutron distribution in the lead block assebly of the PS-211 experiment at CERN, using thermoluminecence and nuclear track detectors.
Savvidis, E., Eleftheriadis,C.A. and Kitis, G.
The 13th international conference on solid state dosimetry.
9-13 July 2001 Athens, Greece.

B5. CAST: A search for solar Axions at CERN
J. I. Collar,…., I. Savvidis
Conference on Astronomical Telescope and Instrumenation, Waikoloa, Hawaii, 22-28 Aug 2002.

B6. Neutron Capture Measurments at the CERN n_TOF Facility for ADS applications.
U. Abbondanno,…., E. Savvidis
11th Internanional Symposium Capture Gamma-ray Spectroscopy and Related topics, 2-6 September 2002.

B7. The CERN Axion solar telescope(CAST):Status and prospects
I.G. Irastorza,…, E. Savvidis
4th International workshop on the identification of dark matter (IDM 2002), York, UK, 2-6 September 2002.

B8. Axion searches at CERN with the CAST Telescope
Christos Eleftheriadis, I. Savvidis,… (CAST Collaboration)
Kalithea 2002, Recent developments in gravity 116-120
[astro-ph 0305534]

B9. Measurements of the resonance capture cross-section of ^{204,206}Pb and termination of s-process.
C. Domingo-Pardo,…., I. Savvidis
AIP Proceedings series
Capture Gamma-ray Spectroscopy and related topics.
Notre Dame, IN, USA, 5-9 Sept. 2005.

B10. Measurements of ^{139}La Cross-section
R. Terlizzi,…., I. Savvidis
AIP Proceedings series
Capture Gamma-ray Spectroscopy and related topics.
Notre Dame, IN, USA, 5-9 Sept. 2005.

B11. SEARCH FOR SOLAR AXIONS: THE CAST EXPERIMENT AT CERN
Andriamonje,….,I. Savvidis
Proc. Of 40th recontres de moriond on Electroweak Interaction and Unified Thearies. Aosta Valley, Italy, March 2005

B12. NOSTOS: a spherical TPC to detect low energy neutrinos
S. Aune,…., I. Savvidis
AIP conf. Proc. 785: 110-118, 2005

B13. The search for solar axions in the CAST experiment.
Donghwa Kang, ….., I. Savvidis
Proc. of 41 st Rencontres de Moriod on Electroweak Interactions Unified Theories
Aosta Valley, Italy, March 2006

B14. Measurements of the neutron capture cross section of ^{236}U
F. Gunsing, …., I. Savvidis
PHYSOR-2006, ANS Topical Meeting on Reactor Physics.
Canadian Nuclear Society, Vancouver, BC, Canada, September 10-14

B15. The ^{234}U neutron capture cross section measurements at the n_TOF facility
C.Lamboudis,……, I. Savvidis,..
International conference on Nuclear Data for Science and technology 2007
Nice, France

B16. Measurements at the n_TOF of the 237Np(n,γ) cross section for the transmutation of the nuclear wast.
Guereco, C., Savvidis, I.,…
PHYSOR-2006, ANS Topical Meeting on Reactor Physics.
Canadian Nuclear Society, Vancouver, BC, Canada, September 10-14

B17. Application of Photon Strength Functions to (n,g) measurements with the n_TOF TAC
C. Guerrero¤1,…,I. Savvidis
Workshop on Photon Strength Functions and Related Topics
June 17-20, 2007
Prague, Czech RepublicConference:

B18. THE n_TOF FACILITY AT CERN
D. Cano-Ott , .., I. Savvidis
Conference: Acc App07
July 30 - August 2, 2007, Pocatello, Idaho

B19. Measurement Of The Neutron Induced Fission Cross Section On Transuranic (TRU) Elements At The n_TOF Facility At CERN
P. F. Masting,…, I. Savvidis
Conference: Eleventh Latin American Symposium On Nuclear Physics And Applications
June 11-16, 2007, Cuzco

B20. Improved lead and bismuth (n,) cross sections and their astrophysical impact
C. Domingo-Pardo,…, I. Savvidis
Nuclear Data for Science and technology, April 22-27, 2007, Nice

B21. The neutron capture cross sections of 237Np(n,) and 240Pu(n,) and its relevance in the transmutation of nuclear waste
C. Guerrero,…, I. Savvidis
Nuclear Data for Science and technology, April 22-27, 2007, Nice

B22. Capture cross section measurements of 186,187,188Os at n TOF: the resolved resonance region
K. Fujii,…, I. Savvidis
Nuclear Data for Science and technology, April 22-27, 2007, Nice

B23. Measurement of the 197Au(n,γ) cross section
at n TOF: towards a new standard
C. Massimii,…, I. Savvidis
Nuclear Data for Science and technology, April 22-27, 2007, Nice

B24. Simultaneous measurement of the neutron capture
and fission yields of 233U
E. Berthoumieux,…, I. Savvidis
Nuclear Data for Science and technology, April 22-27, 2007, Nice

B25. Neutron resonance spectroscopy at n TOF at CERN
F. Gunsing,..,, I. Savvidis
Nuclear Data for Science and technology, April 22-27, 2007, Nice

B26**.** Measurement of neutron induced fission of 235U, 233U and 245Cm
with the FIC detector at the CERN n TOF facility
Marco Calviani,…, I. Savvidis
Nuclear Data for Science and technology, April 22-27, 2007, Nice

B27. Measurement of the 90,91,92,93,94,96Zr(n,) and 139La(n,)
cross sections at n TOF
G. Tagliente,…, I. Savvidis
Nuclear Data for Science and technology, April 22-27, 2007, Nice

B28. Underground Low Flux Neutron Background Measurements in LSM
Using a Large Volume (1m3) Spherical Proportional Counter.
I Savvidis1, I Giomataris2, E Bougamont2, I Irastorza4, S Aune2,
M Chapelier2, Ph Charvin2, P Colas2, J Derre2, E Ferrer2, G Gerbier2 ,
M Gros2, P Mangier2**,**XF Navick2, P Salin5, J D Vergados6 and M Zampalo3
TAUP, 2009, Rome.