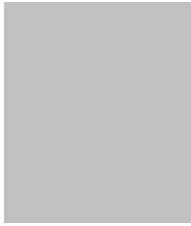




PERSONAL INFORMATION

Ionel LAZANU



 University of Bucharest, Faculty of Physics

 +40214574949/145r 



Sex M | Date of birth [REDACTED] | Nationality Romanian

POSITION WITHIN THE PROJECT

WORK EXPERIENCE

2003 - present

**Professor (Emeritus since 2022)**

University of Bucharest, Faculty of Physics, 405 Atomistilor, Magurele Ilfov 077125

Teaching and research (experiment and phenomenology) in Nuclear and Particle Physics, Cosmology, Interaction of radiation with matter

1997 - 2003

**Reader**

University of Bucharest, Faculty of Physics, 405 Atomistilor, Magurele Ilfov 077125

Teaching and research (experiment and phenomenology) in Nuclear and Particle Physics, Cosmology, Interaction of radiation with matter

1995 -1997

**Lecturer**

University of Bucharest, Faculty of Physics, 405 Atomistilor, Magurele Ilfov 077125

Teaching and research (experiment and phenomenology) in Nuclear and Particle Physics, Cosmology, Interaction of radiation with matter

1993 - 1995

**Assistent Professor**

University of Bucharest, Faculty of Physics, 405 Atomistilor, Magurele Ilfov 077125

Teaching and research (experiment and phenomenology) in Nuclear and Particle Physics, Cosmology, Interaction of radiation with matter

1984 -1993

**Physicist and researcher**

National Institute of Physics and Nuclear Engineering , 407 Atomistilor, Magurele

Research in Nuclear and Atomic Physics  
(1990-1992: JINR Dubna)

1981 -1984

**Teacher of Physics**

Ilfov

Teaching physics

EDUCATION AND TRAINING

1985 - 1992

**PhD**

University of Bucharest, Faculty of Physics

PhD in Radiation Physics; Thesis title: 'Pions Absorption in He-3'  
 Supervisor: Professor Alexandru Mihul

1980 - 1981	<b>MSc</b> University of Bucharest, Faculty of Physics Atomic, Nuclear and Elementary Particle Physics	t
1976 - 1980	<b>Bachelor of Science</b> University of Bucharest, Faculty of Physics Physics	t

### PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Independent User	Independent User	Independent User	Independent User	Independent User
French	Independent User	Independent User	Independent User	Independent User	Independent User

Communication skills good communication skills gained through my experience as sales manager

Organisational / managerial skills leadership (head of former Nuclear and Atomic Chair, Faculty of Physics, principal investigator different research projects)

### ADDITIONAL INFORMATION

Publications See attached list of publications

List of research grant as project coordinator/ responsible partner team

- RO\_DUNE-2 (modul 5.2 RO\_CERN) 2022-2024
- RO\_DUNE (modul 5.2 RO\_CERN) 2019-2021
- NEPHYLAro (modul 5.2 RO\_CERN) 2017.
- Dubna contract 2015 (Anex to JINR Order no. 34/23-01-2015, poz. 72, contract 03-4-1104-2011/2016).
- Dubna contract 68/2014.
- Detection systems for cosmic radiation using new technologies (DETCOS) PNCDI II, Partnership 82-104/2008.
- GRID techniques in astrophysics with applications to modelling and processing space data, (GRAPH), PNCDI II, Partnership UB 82-077/2008.
- Advanced studies for obtaining semiconductor detectors able to operate in intense hadron and lepton fields, with energies up to hundreds of TeV, PNCDI I/ CERES 69/2004.
- Modelling and engineering of defects in semiconductors, for obtaining radiation hard detectors for applications in the physics of particles and heavy ions produced in accelerators or by astrophysical sources, and industrial applications, PNCDI I/ MATNANTECH 219 (404)/2004, UB 219(404)/2004.
- Kinetics of defects induced in semiconductors by irradiation with particles and ions of intermediate and high energies, PNCDI I/CERES 17/2001.

Other projects	<ul style="list-style-type: none"><li>- LAGUNA (proiect FP 7: Grant Agreement No. 212343): Design of a pan European infrastructure for Large Apparatus for Grand Unification and Neutrino Astrophysics; 2008-2011.</li><li>- LAGUNA-LBNO (proiect FP 7): Design of a pan-European Infrastructure for Large Apparatus studying Grand Unification, Neutrino Astrophysics and Long Baseline Neutrino Oscillations; 2011-2014.</li></ul>
Co-Coordinator for study programs	<ul style="list-style-type: none"><li>- Interactii atomice, nucleare, particule elementare, astrofizica si aplicatii, IANPEAA (master, 2008-2013).</li><li>- Fizica atomului, nucleului, particule elementare, astrofizica si aplicatii FANPEAA (master, since academic year 2013-2014) - present</li><li>- Fizica (since academic year 2016-2017) - present.</li></ul>
Organisational skills and competences	<p>Elected Head of the Atomic and Nuclear Physics Chair (2008-2011) Elected member of the Council of the Faculty (2000-2011, 2015- present) Elected Member of the Dissemination Board WA105 Collaboration</p> <p>Member of the Romanian Physics Society, Secretary of the Section: Nuclear Physics, Elementary Particles, Astrophysics, Cosmology (2009-2013) and President of the Section (after 2018) Member of the European Physics Society</p>

## ANNEXES

List of publications

### List of publications

#### Books

Ionel Lazanu, Sorina Lazanu, Chapter 7: Silicon Detectors for High Energy Physics: Physical Models and Predictions for Degradation in Radiation Fields; **pp. 261-305**, in Trends in Experimental High Energy Physics, Editors: Stevens, Jacob R., Nova Publishers NY., 2005, ISBN: 1-59454-350-X

#### Teaching publications

Ionel Lazanu, Introducere in fizica acceleratorilor de particule (Note de curs), Ed. Univ. din Bucuresti, ISBN-973-575-185-2, 1997, 118 pagini

Ionel Lazanu, Spectroscopia hadronilor (note de curs) ), Ed. Univ. din Bucuresti, ISBN-973-575-282-4, 1998, 145 pagini

Ionel Lazanu, Cosmologie si particule elementare, Ed. Univ. din Bucuresti, ISBN-973-575-364-2, 1999, 165 pagini

Ionel Lazanu, Alexandru Mihul, Particule elementare (partea I) Ed. Univ. din Bucuresti, ISBN-973-575-528-9, 2001, 222 pagini

Ionel Lazanu, Particule elementare – probleme rezolvate, Ed. Univ. din Bucuresti, ISBN-973-575-677-3, 2002, 201 pagini

#### Papers in Web of Science

1. Impact of cross-section uncertainties on supernova neutrino spectral parameter fitting in the Deep Underground Neutrino Experiment

DUNE Collaboration, A. Abed Abud et al., *Phys.Rev.D* 107 (2023) 11, 112012

2. Large low background kTon-scale liquid argon time projection chambers

- T. Bezerra, et al. *J.Phys.G* 50 (2023) 6, 060502
3. Highly-parallelized simulation of a pixelated LArTPC on a GPU  
DUNE Collaboration  
Adam Abed Abud et al., *JINST* 18 (2023) 04, P04034
4. Identification and reconstruction of low-energy electrons in the ProtoDUNE-SP detector  
DUNE Collaboration, A. Abed Abud et al., *Phys.Rev.D* 107 (2023) 9, 092012
5. Reconstruction of interactions in the ProtoDUNE-SP detector with Pandora  
DUNE Collaboration, Adam Abed Abud et al., *Eur.Phys.J.C* 83 (2023) 7, 618
6. Separation of track- and shower-like energy deposits in ProtoDUNE-SP using a convolutional neural network  
DUNE Collaboration, Adam Abed Abud et al., *Eur.Phys.J.C* 82 (2022) 10, 90
7. Scintillation light detection in the 6-m drift-length ProtoDUNE Dual Phase liquid argon TPC  
DUNE Collaboration, Adam Abed Abud and al. *Eur.Phys.J.C* 82 (2022) 7, 618
8. Low exposure long-baseline neutrino oscillation sensitivity of the DUNE experiment  
DUNE Collaboration, A. Abud Abed et al., *Phys.Rev.D* 105 (2022) 7, 072006
9. Design, construction and operation of the ProtoDUNE-SP Liquid Argon TPC  
DUNE Collaboration  
A. Abed Abud et al., *JINST* 17 (2022) 01, P01005
10. Deep Underground Neutrino Experiment (DUNE) Near Detector Conceptual Design Report  
DUNE Collaboration, A.Abed et al., *Instruments* 5 (2021) 4, 31
11. Searching for Solar KDAR with DUNE  
DUNE Collaboration, A. Abed et al., e-Print: 2107.09109 [hep-ex], *JCAP* 10 (2021) 065
12. Radioactive background for ProtoDUNE detector  
Mihaela Parvu, Ionel Lazanu, *JCAP*08(2021)042, e-Print: 2104.10604 [physics.ins-det]
13. Performance study of a 3×1×1 m<sup>3</sup> dual phase liquid Argon Time Projection Chamber exposed to cosmic rays  
WA105 Collaboration, B. Aimard et al., *JINST* 16 (2021) 08, P08063,  
e-Print: 2104.08227 [physics.ins-det]
14. Study of scintillation light collection, production and propagation in a 4 tonne dual-phase LArTPC  
B. Aimard et. al., *JINST* 16 (2021) 03, P03007, e-Print: 2010.08370 [physics.ins-det]
15. Prospects for beyond the Standard Model physics searches at the Deep Underground Neutrino Experiment  
DUNE Collaboration, B. Abi et al., *Eur.Phys.J.C* 81 (2021) 4, 322, e-Print: 2008.12769 [hep-ex]
16. Supernova neutrino burst detection with the Deep Underground Neutrino Experiment  
DUNE Collaboration, B. Abi et al., *Eur.Phys.J.C* 81 (2021) 5, 423, e-Print: 2008.06647 [hep-ex]
17. First results on ProtoDUNE-SP liquid argon time projection chamber performance from a beam test at the CERN Neutrino Platform  
DUNECollaboration, B. Abi, *JINST* 15 (2020) 12, P12004, e-Print: 2007.06722 [physics.ins-det]
18. Neutrino interaction classification with a convolutional neural network in the DUNE far detector  
DUNE Collaboration, B. Abi et al., *Phys.Rev.D* 102 (2020) 9, 09200,

e-Print: 2006.15052 [physics.ins-det]

19. Long-baseline neutrino oscillation physics potential of the DUNE experiment  
DUNE Collaboration, B. Abi et al., *Eur.Phys.J.C* 80 (2020) 10, 978, e-Print: 2006.16043 [hep-ex]
20. About detecting very low mass black holes in LAr detectors  
Ionel Lazanu et al., *JCAP* 10 (2020) 046, e-Print: 2006.09974 [hep-ph]
21. Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume I Introduction to DUNE  
DUNE Collaboration, Babak Abi et al., *JINST* 15 (2020) 08, T08008, e-Print: 2002.02967 [physics.ins-det]
22. Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume III: DUNE Far Detector Technical Coordination  
DUNE Collaboration, Babak Abi et al., *JINST* 15 (2020) 08, T08009, e-Print: 2002.03008 [physics.ins-det]
23. Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume IV: Far Detector Single-phase Technology  
DUNE Collaboration, Babak Abi et al., *JINST* 15 (2020) 08, T08010, e-Print: 2002.03010 [physics.ins-]
24. New results on Coulomb interaction effects in relativistic heavy ion collisions  
O. Ristea et. al., *Nuovo Cim.C* 42 (2019) 2-3-3, 84
25. Muon induced radioactivity in the next generation of neutrino experiments  
Parvu Mihaela et. al., *AIP Conf.Proc.* 2075 (2019) 1, 090010
26. A 4 tonne demonstrator for large-scale dual-phase liquid argon time projection chambers  
B. Aimard et.al., *JINST* 13 (2018) 11, P11003, e-Print: 1806.03317 [physics.ins-det]
27. Some considerations about cosmogenic production of radioactive isotopes in Ar as target for the next neutrino experiments  
Mihaela Pärvu, I. Lazanu, Dec 12, 2017.  
Published in *Radiat.Phys.Chem.* 152 (2018) 129
28. A 4 tonne demonstrator for large-scale dual-phase liquid argon time projection chambers  
B. Aimard (Annecy, LAPP) et al., Jun 8, 2018. 61 pp.  
Published in *JINST* 13 (2018) no.11, P11003
29. Challenges in QCD matter physics -The scientific programme of the Compressed Baryonic Matter experiment at FAIR  
Ablyazimov, T.; Abuhoza, A.; Adak, R. P.; et al.  
*EUROPEAN PHYSICAL JOURNAL A* Vol. 53, Issue: 3, Article number: 60, 2017
30. Contribution of the electron-phonon interaction to Lindhard energy partition at low energy in Ge and Si detectors for astroparticle physics applications  
Lazanu Ionel, Lazanu, Sorina  
*ASTROPARTICLE PHYSICS* Vol. 75 Pages: 44-54, 2016
31. MODEL OF ENERGY EXCHANGE THROUGH ELECTRON-PHONON COUPLING DURING TRANSIENT PHENOMENA IN MATERIALS FOR DETECTORS  
Lazanu, S.; Lazanu Ionel  
*ROMANIAN REPORTS IN PHYSICS* Vol. 68 Issue: 3 Pages: 1015-1023, 2016
32. HYDRODYNAMIC FLOW AND PHASE TRANSITIONS IN RELATIVISTIC NUCLEAR COLLISIONS REFLECTED BY HUBBLE TYPE FIREBALL EVOLUTION  
Ristea, C.; Jipa, A.; Ristea, O.; et al.  
*ROMANIAN REPORTS IN PHYSICS* Vol. 68 Issue: 3 Pages: 1060-1068, 2016
33. MODIFICATION OF LINDHARD ENERGY PARTITION FOR LOW ENERGY RECOILS IN GERMANIUM AND SILICON FOR DETECTORS DUE TO ELECTRON PHONON COUPLING  
Lazanu, S.; Lazanu I.  
*ROMANIAN REPORTS IN PHYSICS* Vol. 68 Issue: 2 Pages: 594-603, 2016
34. The mass-hierarchy and CP-violation discovery reach of the LBNO long-baseline neutrino experiment  
Agarwalla, S. K.; Agostino, L.; Aittola, M.; et al.

Group Author(s): LAGUNA-LBNO Collaboration

JOURNAL OF HIGH ENERGY PHYSICS Issue: 5 Article Num.: 094, 2014

35. THERMAL EFFECTS PRODUCED AT CRYOGENIC TEMPERATURES IN MATERIALS USED AS BOLOMETRIC DETECTORS FOR DARK MATTER

Lazanu, I.; Lazanu, S.

ROMANIAN REPORTS IN PHYSICS Vol. 66 Issue: 4 Pages: 963-972, 2014 2

36. Studies of radio emission from neutrino induced showers generated in rock salt

Saftoiu, A.; Sima, O.; Rebel, H.; et al.

ASTROPARTICLE PHYSICS Volume: 46 Pages: 1-13, 2013

37. Analysis of defect formation in semiconductor cryogenic bolometric detectors created by heavy dark matter

Lazanu, Ionel; Ciurea, Magdalena Lidia; Lazanu, Sorina

ASTROPARTICLE PHYSICS Volume: 44 Pages: 9-14, 2013

38. FROM LITTLE BANGS TO BIG BANG

Ristea, C.; Jipa, A.; Lazanu, I.; et al.

ROMANIAN REPORTS IN PHYSICS Vol. 65 Issue: 4 Pag.: 1321-1327, 2013

39. The next-generation liquid-scintillator neutrino observatory LENA

Wurm, Michael; Beacom, John F.; Bezrukov, Leonid B.; et al.

ASTROPARTICLE PHYSICS Volume: 35 Issue: 11 Pages: 685-732, 2012

40. Interactions of exotic particles with ordinary matter

Lazanu, Ionel; Lazanu, Sorina

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS Volume: 278 Pages: 70-77, 2012

41. SUPERHEATED DROPLET DETECTORS: THEORETICAL MODEL AND TESTS TO NEUTRON FIELD

Lazanu, Ionel; Chilug, Alexandra

ROMANIAN REPORTS IN PHYSICS Vol. 64 Issue: 4 Pages: 977-985, 2012

42. PRELIMINARY RESULTS OF NEUTRINO INTERACTIONS STUDY USING GENIE EVENT GENERATOR

Chesneanu, D.; Jipa, A.; Lazanu, I.; et al.

ROMANIAN REPORTS IN PHYSICS Vol. 64 Issue: 3 Pages: 695-701, 2012

43. ON THE PARTICLE CORRELATIONS IN RELATIVISTIC NUCLEAR COLLISIONS

Velica, Stefania; Jipa, A.; Besliu, C.; et al.

ROMANIAN REPORTS IN PHYSICS Vol. 64 Issue: 3 Pages: 702-714, 2012

44. CONSIDERATIONS ON A LARGE SCALE NEUTRINO DETECTOR IN A SALT DOME

Badescu, A. M.; Petrescu, T.; Saftoiu, A.; et al.

ROMANIAN REPORTS IN PHYSICS Vol.64 Issue: 3 Pages: 815-824, 2012

45. THE STUDY OF NEUTRINO-NUCLEUS INTERACTIONS USING A MONTE CARLO EVENT GENERATOR

Chesneanu, Daniela; Jipa, Alexandru; Lazanu, Ionel

UNIVERSITY POLITEHNICA OF BUCHAREST SCIENTIFIC BULLETIN-SERIES A-APPLIED MATHEMATICS AND PHYSICS Vol.74 Issue: 2 Pages: 161-167, 2012

46. ABOUT THE POSSIBILITY TO MEASURE SOME STANDARD MODEL PARAMETERS AND SEARCH FOR NEW PHYSICS WITH LOW ENERGY NEUTRINOS

Lazanu, I.; Apostu, A.; Brancus, I.; et al.

ROMANIAN REPORTS IN PHYSICS Vol. 64 Issue: 1 Pages: 24-32, 2012

47. RADIO TECHNIQUE FOR INVESTIGATING HIGH ENERGY COSMIC NEUTRINOS

Badescu, A. M.; Saftoiu, A.; Fratu, O.; et al.

ROMANIAN REPORTS IN PHYSICS Volume: 64 Issue: 1 Pages: 281-293 Published: 2012

48. SIMULATION OF ELECTROMAGNETIC SHOWERS IN SALT PERFORMED WITH GEANT4

Saftoiu, A.; Sima, O.; Lazanu, I.; et al.

ROMANIAN REPORTS IN PHYSICS Vol.64 Issue: 1 Pages: 314-324, 2012

49. Silicon detectors for the sLHC

- Affolder, A.; Aleev, A.; Allport, P. P.; et al.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 658 Issue: 1 Pages: 11-16, 2011
50. A mobile detector for measurements of the atmospheric muon flux in underground sites  
Mitrica, Bogdan; Margineanu, Romul; Stoica, Sabin; et al.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 654 Issue: 1 Pages: 176-183, 2011
51. Transient thermal effects in solid noble gases as materials for the detection of Dark Matter  
Lazanu, Ionel; Lazanu, Sorina  
JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS Issue: 7 Article Number: 013 Published: JUL 2011
52. Modelling the transient processes produced under heavy particle irradiation  
Lazanu, Sorina; Lazanu, Ionel; Ciobanu, Gheorghe  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH  
MATERIALS AND ATOMS Volume: 269 Issue: 4 Pages: 498-503, 2011
53. MODELLING TRANSIENT PROCESSES IN THE COMPETITIVE PHENOMENA INDUCED BY HEAVY  
PROJECTILES IN MATERIALS FOR DETECTORS  
Lazanu, Ionel; Lazanu, Sorina  
ROMANIAN REPORTS IN PHYSICS Volume: 63 Issue: 3 Pages: 707-716 Published: 2011
54. RESULTS OF UNDERGROUND DOSE RATES USING TL DETECTORS AND PRELIMINARY TL  
CHARACTERISTICS OF IRRADIATED SALT ROCK  
Apostu, Ana Maria; Chiroasca, A. L.; Gomoiu, Claudia; et al.  
ROMANIAN REPORTS IN PHYSICS Vol. 63 Issue: 1 Pages: 220-225, 2011
55. Common ways in the description of the "classical" plasma and quark-gluon plasma  
Jipa, Alexandru; Covlea, Vania; Besliu, Calin; et al.  
INDIAN JOURNAL OF PHYSICS Volume: 85 Issue: 1 Pages: 167-175, 2011
56. TRANSVERSE MOMENTUM-LONGITUDINAL MOMENTUM CORRELATIONS, THERMALIZATION AND  
HYDRODYNAMIC FLOW IN RELATIVISTIC NUCLEAR COLLISIONS  
Jipa, Alexandru; Grigorie, Claudian; Besliu, Calin; et al.  
ROMANIAN REPORTS IN PHYSICS Volume: 63 Supplement: S Pages: 1215-1235, 2011
57. Transient processes induced by heavy projectiles in silicon  
Lazanu, Ionel; Lazanu, Sorina  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH  
MATERIALS AND ATOMS Volume: 268 Issue: 13 Pages: 2241-2245, 2010
58. ROLE OF PHASE AND GROUP VELOCITIES IN CERENKOV RADIATION AND APPLICATIONS IN HEP  
EXPERIMENTS  
Badea, Madalina; Lazanu, Ionel  
ROMANIAN REPORTS IN PHYSICS Volume: 62 Issue: 2 Pages: 298-308, 2010
59. KINETICS OF DEFECTS IN LOW TEMPERATURE SEMICONDUCTOR DETECTORS AND DIRECT DARK  
MATTER SEARCH  
Lazanu, Ionel; Lazanu, Sorina  
ROMANIAN REPORTS IN PHYSICS Volume: 62 Issue: 2 Pages: 309-318 Published: 2010
60. STUDIES OF THE HIGH ENERGY MUON FLUX IN UNIREA SALT MINE FROM SLANIC PRAHOVA  
Mitrica, B.; Margineanu, R.; Brancus, I. M.; et al.  
ROMANIAN REPORTS IN PHYSICS Vol. 62 Issue: 4 Pages: 750-757, 2010
61. Semiconductor detectors for high radiation fields: microscopic processes in materials and the control of device  
parameters  
Lazanu, S.; Ciurea, M. L.; Lazanu, I.  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS Volume: 11 Issue: 12 Pages: 2150-2154, 2009
62. FROM NUCLEAR MATTER TO STRANGE QUARK MATTER - SOME CHARACTERISTICS OF THE  
INTERACTIONS IN ORDINARY MATTER  
Lazanu, I.; Chera, M.; Iordanescu, R.; et al.



- ROMANIAN REPORTS IN PHYSICS Vol. 61 Issue: 2 Pages: 215-221, 2009
63. ENERGY DEPOSITED BY RADIATION IN SOLIDS: REGISTRATION PHYSICS  
Lazanu, I.; Lazanu, S.  
ROMANIAN REPORTS IN PHYSICS Vol.61 Issue: 4 Pages: 689-699, 2009
64. Analytical approximations of the NIEL in semiconductor detectors for HEP  
Lazanu, I.; Lazanu, S.  
ROMANIAN REPORTS IN PHYSICS Vol.60 Issue: 1 Pages: 71-78, 2008
65. Correlation between ionization and displacement damage in silicon detectors for energies of interest in astroparticle and particle physics applications  
Lazanu, I.; Lazanu, S. ROMANIAN REPORTS IN PHYSICS Vol. 60 Issue: 2 Pages: 381-387, 2008
66. Modelling spatial distribution of defects and estimation of electrical degradation of silicon detectors in radiation fields at high luminosity  
Lazanu, S.; Lazanu, I.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 583 Issue: 1 Special Issue: SI Pages: 165-168, 2007
67. Correlation between radiation processes in silicon and long-time degradation of detectors for high-energy physics experiments  
Lazanu, Sorina; Lazanu, Ionel  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 580 Issue: 1 Pages: 46-49, 2007
68. New aspects of the contribution of primary defects of silicon to long-time degradation of detectors operating in high fields of radiation  
Lazanu, S.; Lazanu, I.  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS Volume: 9 Issue: 6 Pages: 1839-1842, 2007
69. Primary defects in silicon: existence, characteristics, and their role after high fluence irradiation  
Lazanu, S.; Lazanu, I.; Ciupina, V.; et al.  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS Volume: 9 Issue: 4 Pages: 814-817, 2007
70. Silicon detectors: Damage, modelling and expected long-time behaviour in physics experiments at ultra high energy  
Lazanu, Ionel; Lazanu, Sorina  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 572 Issue: 1 Pages: 297-299, 2007
71. The role of primary point defects in the degradation of silicon detectors due to hadron and lepton irradiation  
Lazanu, I.; Lazanu, S.  
PHYSICA SCRIPTA Volume: 74 Issue: 2 Pages: 201-207 Published: AUG 2006
72. Recent advancements in the development of radiation hard semiconductor detectors for S-LHC  
Fretwurst, E; Adey, J; Al-Ajili, A; et al.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 552 Issue: 1-2 Pages: 7-19, 2005
73. Development of radiation tolerant semiconductor detectors for the Super-LHC  
Moll, M; Adey, J; Al-Ajili, A; et al.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 546 Issue: 1-2 Pages: 99-107, 2005
74. Radiation-hard semiconductor detectors for SuperLHC  
Bruzzi, M; Adey, J; Al-Ajili, A; et al.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 541 Issue: 1-2 Pages: 189-201, 2005
75. Scenarios about the long-time damage of silicon as material and detectors operating beyond LHC collider conditions  
Lazanu, I; Lazanu, S  
PHYSICA SCRIPTA Volume: 71 Issue: 1 Pages: 31-38, 2005



76. Systematic study related to the role of initial impurities and irradiation rates in the formation and evolution of complex defects in silicon for detectors in HEP experiments  
Lazanu, S; Lazanu, I  
PHYSICA SCRIPTA Volume: 69 Issue: 5 Pages: 376-384, 2004
77. Microscopic modelling of defects production and their annealing after irradiation in silicon for HEP particle detectors  
Lazanu, S; Lazanu, I; Bruzzi, M  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 514 Issue: 1-3 Pages: 9-17, 2003
78. Role of oxygen and carbon impurities in the radiation resistance of silicon detectors  
Lazanu, S; Lazanu, I  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS Volume: 5 Issue: 3 Pages: 647-652, 2003
79. Long-term damage induced by hadrons in silicon detectors for uses at the LHC-accelerator and in space missions  
Lazanu, I; Lazanu, S  
PHYSICA SCRIPTA Volume: 67 Issue: 5 Pages: 388-394, 2003
80. The influence of initial impurities and irradiation conditions on defect production and annealing in silicon for particle detectors  
Lazanu, I; Lazanu, S  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH  
MATERIALS AND ATOMS Volume: 201 Issue: 3 Pages: 491-502, 2003
81. Radiation defects in silicon due to hadrons and leptons, their annealing and influence on detector performance  
Lazanu, I; Lazanu, S  
PHYSICA SCRIPTA Volume: 66 Issue: 2 Pages: 125-132, 2002
82. Theoretical calculations of the primary defects induced by pions and protons in SiC  
Lazanu, S; Lazanu, I; Borchi, E; et al.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 485 Issue: 3 Pages: 768-773 Article  
Number: PII S0168-9002(01)02147-7, 2002
83. Annealing of radiation-induced defects in silicon in a simplified phenomenological model  
Lazanu, S; Lazanu, I  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH  
MATERIALS AND ATOMS Volume: 183 Issue: 3-4 Pages: 383-390, 2001
84. Analytical approximations of the Lindhard equations describing radiation effects  
Lazanu, S; Lazanu, I  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 462 Issue: 3 Pages: 530-535, 2001
85. Comparative energy dependence of proton and pion degradation in diamond  
Lazanu, I; Lazanu, S  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 432 Issue: 2-3 Pages: 374-378, 1999
86. Diamond degradation in hadron fields  
Lazanu, S; Lazanu, I; Borchi, E  
NUCLEAR PHYSICS B-PROCEEDINGS SUPPLEMENTS Volume: 78 Pages: 683-688, 1999
87. Si, GaAs and diamond damage in pion fields with application to LHC  
Lazanu, S; Lazanu, I  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 419 Issue: 2-3 Pages: 570-576, 1998
88. Theoretical study of pion damage in A(3)B(5) compounds  
Lazanu, S; Lazanu, I; Biggeri, U; et al.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 413 Issue: 2-3 Pages: 242-248, 1998
89. Theoretical calculation of diamond damage by  $\pi^+/\pi^-$  mesons in the  $\Delta(33)$  resonance energy range

Lazanu, I; Lazanu, S; Borch, E; et al.

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 406 Issue: 2 Pages: 259-266, 1998

90. Non-ionising energy deposition of pions in GaAs and Si for radiation damage studies

Lazanu, S; Lazanu, I; Biggeri, U; et al.

NUCLEAR PHYSICS B Supplement: 61B Pages: 409-414, 1998

91. Model predictions for the NIEL of high energy pions in Si and GaAs

Lazanu, S; Lazanu, I; Biggeri, U; et al.

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 394 Issue: 1-2 Pages: 232-234, 1997

92. Non-ionising energy loss of pions in thin silicon samples

Lazanu, I; Lazanu, S; Biggeri, U; et al.

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 388 Issue: 3 Pages: 370-374, 1997

93. RADIATION HARDNESS STUDIES ON SILICON DETECTORS IN FAST-NEUTRON FIELDS

ANGELESCU, T; CHEREMUKHIN, AE; GHETE, VM; et al.

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 357 Issue: 1 Pages: 55-63, 1995

94. A NEUTRON-IRRADIATION FACILITY FOR DAMAGE STUDIES

ANGELESCU, T; GHETE, VM; LAZANU, I; et al.

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS  
SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 345 Issue: 2 Pages: 303-307, 1994

95. INELASTIC  $\text{PI}^{(+)}\text{HE-3}$  INTERACTION AT 100, 120 AND 145 MEV

MIHUL, A; ANGELESCU, T; IONICA, R; et al.

NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA A-NUCLEI PARTICLES AND FIELDS Volume: 105  
Issue: 11 Pages: 1637-1647, 1992

96. PION ABSORPTION IN  $\text{HE-3}$  AT 100, 120, AND 145MEV

ANGELESCU, T; MIHUL, A; PASCU, L; et al.

NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA A-NUCLEI PARTICLES AND FIELDS Volume: 103  
Issue: 1 Pages: 93-104, 1990

97. INELASTIC  $\text{PI-HE-3}$  INTERACTION AT 180 MEV

ANGELESCU, T; MIHUL, A; PASCU, L; et al.

NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA A-NUCLEI PARTICLES AND FIELDS Volume: 100  
Issue: 3 Pages: 381-395, 1988

98. PION ABSORPTION ON LIGHT-NUCLEI

MIHUL, A; ANGELESCU, T; PREDA, T; et al.

REVUE ROUMAINE DE PHYSIQUE Volume: 33 Issue: 4-6 Pages: 751-755, 1988

99. GEOMETRICAL RECONSTRUCTION AND SELECTION CRITERIA OF  $\text{PI-3 HE}$  INELASTIC EVENTS  
DETECTED IN A HIGH-PRESSURE STREAMER CHAMBER

ANGELESCU, T; MIHUL, A; PASCU, L; et al.

REVUE ROUMAINE DE PHYSIQUE Volume: 31 Issue: 2 Pages: 125-137, 1986

100. INELASTIC  $\text{PHI}^{+}\text{HE-3}$  INTERACTION AT 145 MEV

ANGELESCU, T; LAZANU, I; MIHUL, A; et al.

NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA A-NUCLEI PARTICLES AND FIELDS Volume: 89 Issue:  
2 Pages: 162-176, 1985

## Proceedings

1) Re-analysis of some bubble chamber data on N-anti(N) annihilations

I. Lazanu, M. Rujoiu

Baryons'98, Proc. Of the 8<sup>th</sup> International Conference on the Structure of Baryons, Bonn, 22-26 September 1998, pages 121-126, Editors: D. W. Menze, B. Metsch, Word Scientific, ISBN 981-02-3865-7, (5 pages)

2) Influence of crystal growth technology on the tolerance to radiation of silicon for detectors at future accelerators  
Lazanu, S.; Lazanu, I.; Ciurea, ML

27th International Semiconductor Conference (CAS) Location: Sinaia, ROMANIA Date: OCT 04-06, 2004, Sponsor(s): Natl Inst Res & Dev Microtechnol; Romanian Acad; Electrochem Soc Inc; IEEE; IEEE Elect Devices Soc; Minist Educ & Res; IEEE Romania Sect, Elect Devices Chapter  
2004 International Semiconductor Conference, Vols 1 and 2, Proceedings Pages: 419-422 (4 pages) Published: 2004

3) Some contributions to the understanding of the puzzle of physical processes of degradation in irradiated silicon  
By: Lazanu, S.; Lazanu, I.; Ciurea, M. L.

Conference: International Semiconductor Conference Location: Sinaia, ROMANIA Date: OCT 15-17, 2007, Sponsor(s): Natl Inst Res & Dev Microtechnol; Romanian Acad; Electrochem Soc; IEEE Electron Devices Soc; Minist Educ, Res & Youth; IEEE Romania Sect; Elect Device Chapter  
CAS 2007 INTERNATIONAL SEMICONDUCTOR CONFERENCE, VOLS 1 AND 2, PROCEEDINGS Pages: 319-322 (4 pages) Published: 2007

4) Energy loss and damage production by heavy ions and strange quark matter in silicon 7

Lazanu, Sorina; Lazanu, Ionel

Edited by: Barone, M; Gaddi, A; Leroy, C; et al.

10th International Conference on Advanced Technology and Particle Physics Location: Ctr Cultura Sci A Volta, Como, ITALY Date: OCT 08-12, 2007 Sponsor(s): G Castiglioni

ASTROPARTICLE, PARTICLE AND SPACE PHYSICS, DETECTORS AND MEDICAL PHYSICS APPLICATIONS

Book Series: Astroparticle Particle Space Physics Radiation Interaction Detectors and Medical Physics Applications Volume: 4 Pages: 471-475 (5 pages) Published: 2008

5) DEFECT PRODUCTION IN SILICON AND GERMANIUM BY LOW TEMPERATURE IRRADIATION

Lazanu, S.; Lazanu, I.; Lepadatu, A.; et al.

32nd International Semiconductor Conference Location: Sinaia, ROMANIA Date: OCT 12-14, 2009, Sponsor(s): Natl Inst Res & Dev Microtechnol

CAS: 2009 INTERNATIONAL SEMICONDUCTOR CONFERENCE, VOLS 1 AND 2, PROCEEDINGS Book Series: International Semiconductor Conference Pages: 379-382 (4 pages) Published: 2009

6) Point and extended defects in irradiated silicon and consequences for detectors

Lazanu, Sorina; Ciurea, Magdalena Lidia; Lazanu, Ionel

Edited by: Rabier, J; LeBourhis, E

Conference: International Conference on Extended Defects in Semiconductors (EDS 2008) Location: Poitiers, FRANCE Date: SEP 14-19, 2008 Sponsor(s): Poitiers Univ; PhyMat Lab

PHYSICA STATUS SOLIDI C - CURRENT TOPICS IN SOLID STATE PHYSICS, VOL 6, NO 8 Book Series: Physica Status Solidi C-Current Topics in Solid State Physics Volume: 6 Issue: 8 Pages: 1974-1978 (5 pages) Published: 2009

7) Estimation of m.w.e (meter water equivalent) depth of the salt mine of Slanic Prahova, Romania

Mitrica, B.; Margineanu, R.; Stoica, S.;...Lazanu I., .. et al.

Edited by: Trache, L; Stoica, S; Smirnov, A

Conference: Carpathian Summer School of Physics Conference Location: Sinaia, ROMANIA Date: JUN 20-JUL 03, 2010 Sponsor(s): Abdus Salam Int Ctr Theoret Phys; Natl Author Sci Res; Horia Hulubei Natl Inst Phys& Nucl Engn; Texas A&M Univ, Cyclotron Inst; Central European Initiat

EXOTIC NUCLEI AND NUCLEAR - PARTICLE ASTROPHYSICS III: FROM NUCLEI TO STARS Book Series: AIP Conference Proceedings Volume: 1304 Pages: 331-335 (5 pages), 2010

8) STUDIES OF LONG TIME AND TRANSIENT EFFECTS INDUCED BY RADIATION IN CRYSTALLINE MATERIALS

Lazanu, S.; Lazanu, I.; Iordache, G.; et al.

Conference: 34th International Semiconductor Conference (CAS) Location: Natl Inst Res & Dev Microtechnologies (IMT), Sinaia, ROMANIA Date: OCT 17-19, 2011 Sponsor(s): IEEE; IEEE Electron Devices Soc (EDS); Minist Educ, Res, Youth & Sport; IEEE Romania Sect; IEEE Electron Devices Chapter; Romanian Acad; Electrochem Soc Inc; Raith-Innovat Solut Nanofabricat & Semicond Inavigat (Raith); Oxford Instruments GmbH Plasma Technol; S C Style Serv S R L

2011 INTERNATIONAL SEMICONDUCTOR CONFERENCE (CAS 2011), 34TH EDITION, VOLS 1 AND 2 Book Series: International Semiconductor Conference Pages: 261-264 (4 pages) Published: 2011

9) New informations on the dynamics of relativistic nucleus-nucleus collisions

Al. Jipa, C. Besliu, O. Ristea, M. Calin, D. Argintaru, T. Esanu, I. Lazanu, V. Covlea, C. Bordeianu, C. Iosif, I. Grossu, A. Scurtu, S. Velica, V. Baban, A. Birzu, S. Cioranu, A. Paduraru, S. Paragina, F. Paragina, D. Stoica

Rutherford Centennial Conference on Nuclear Physics

IOP Publishing, doi: 10.1088/1742-6596/381/1/012042, Journal of Physics: Conference Series 381 (2012) 012042 (7 pag.)

10) Radio propagation environment analysis for neutrino radio detection in salt mines

Badescu, Alina-Mihaela; Petrescu, Teodor; Fratu, Octavian; et al.

Edited by: Liu, T

2nd International Conference on Technology and Instrumentation in Particle Physics (TIPP) Location: Chicago, IL Date: JUN 09-14, 2011 Sponsor(s): Fermilab; NSF; Fermi Res Alliance; APS Phys; U S Dept Energy; Argonne Natl Lab; Int Union Pure & Appl Phys (IUPAP)

PROCEEDINGS OF THE 2ND INTERNATIONAL CONFERENCE ON TECHNOLOGY AND INSTRUMENTATION IN PARTICLE PHYSICS (TIPP 2011) Book Series: Physics Procedia Volume: 37 Pages: 1273-1278 (6 pages) Published: 2012

11) The LAGUNA project - Towards the giant liquid based detectors for proton decay searches and for low energy neutrino astrophysics (Conference Paper) 8

Kisiel, J et. al.,

Proceedings of Science2009, 4p

European Physical Society Europhysics Conference on High Energy Physics, EPS-HEP 2009; Krakow; Poland; 16 July 2009 through 22 July 2009; Code 101851, ISSN: 18248039

12) The LAGUNA design study-towards giant liquid based underground detectors for neutrino physics and astrophysics and proton decay searches (Conference Paper)

European Strategy for Future Neutrino Physics 2009, Proceedings

Angus, D. et. al.,

2010, Pages 226-229

Workshop on European Strategy for Future Neutrino Physics 2009; Geneva; Switzerland; 1 October 2009 through 3 October 2009; Code 98998, ISBN: 978-929083354-3

13) Muon induced radioactivity in the next generation of neutrino experiments

Mihaela Parvu, Ana Chiriacescu, Ionel Lazanu, Alexandru Jipa, Oana Ristea, Marius Calin. 2019.

AIP Conf.Proc. 2075 (2019) no.1, 090010

## Other papers

1) [The DUNE Far Detector Interim Design Report Volume 1: Physics, Technology and Strategies](#)

DUNE Collaboration (B. Abi (Oxford U.) *et al.*). Jul 26, 2018. 83 pp.

FERMILAB-DESIGN-2018-02 , e-Print: [arXiv:1807.10334](#) [physics.ins-det]

2) [The DUNE Far Detector Interim Design Report, Volume 2: Single-Phase Module](#)

DUNE Collaboration (B. Abi (Oxford U.) *et al.*). Jul 26, 2018. 324 pp.

FERMILAB-DESIGN-2018-03 , e-Print: [arXiv:1807.10327](#) [physics.ins-det]

3) [The DUNE Far Detector Interim Design Report, Volume 3: Dual-Phase Module](#)

DUNE Collaboration (B. Abi (Oxford U.) *et al.*). Jul 26, 2018. 280 pp.

FERMILAB-DESIGN-2018-04 , e-Print: [arXiv:1807.10340](#) [physics.ins-det]

4) [Measurement of low energy component of the flux of cosmic rays using nuclear track detectors](#)

Ana Chiriacescu, Ionel Lazanu. Sep 26, 2017, e-Print: [arXiv:1709.09116](#) [physics.ins-det]

5) Some considerations about cosmogenic production of radioactive isotopes in Ar as target for the next neutrino experiments

[Mihaela Pârveu, I. Lazanu](#), [physics.ins-det], Dec. 2017, arXiv: 1712.04399 [physics.ins-det]

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