CURRICULUM VITAE

https://web.theory.nipne.ro/index.php/members/14-people/nuclear-physics/56-ddelion

A. PERSONAL DATA

Name: **DELION DORU-SABIN**

Date and place of birth: 1951, June 5, Bacau, Romania

Family: Married (in 1977) with Delion Ecaterina-Daniela (b.1955), high school teacher.
Children: Delion Daniel-Sabin (b.1978), software engineer.

Address: Aleea Cetatuia nr. 10, Bloc 25/1, Sc.A, Ap.26, sector 6, 060836, Bucharest, Romania

B. EDUCATION

Studies: Faculty of Physics – Theoretical Physics,
University of Sankt Petersburg, Russia (1976)

Scientific Title: Ph.D. in Physics (1989)
Thesis: “Description of M1 and M3 magnetic states in even-even nuclei and of M1 states in odd nuclei”, Supervisor: Prof. A.A. Raduta

Foreign Languages: English (very good), Russian (very good), French (good)

C. POSITIONS

1) Senior Researcher of the first degree (equivalent to full Professor, since 1999)
Department of Theoretical Physics, “Horia Hulubei” National Institute of Physics and Nuclear Engineering (IFIN-HH), Bucharest-Magurele, Romania
2) Associate Professor, Physics Department, University of Bucharest (since 2001)
3) Full Professor, “Bioterra” University, Bucharest (since 2011)
4) Vice-president of the IFIN-HH Scientific council (2012-2016)
5) Scientific secretary of the Academy of Romanian Scientists (2007-2016)
6) Vice-president of the Academy of Romanian Scientists (since 2016)

D. AWARDS

- "Gheorghe Murgoci" Prize of the Romanian Academy (1983)
- Outstanding Referee for the journals of the American Physical Society (2015)
- Outstanding Contribution în Reviewing for Nuclear Physics **A**, Elsevier (2017)
- Outstanding Contribution în Reviewing for Physics Letters **B**, Elsevier (2017)

E. SCIENTIFIC ACTIVITY

Specialization fields: Theoretical Physics, Numerical Analysis

Main areas of scientific activity:

- Theoretical nuclear structure: collective magnetic states, alpha clustering, proton-alpha-cluster decays, beta and double beta decay, cold fission, multi-phonon states, self-consistent Random Phase Approximation.
- Informatic systems and numerical methods.

Highlighted achievements:

- Explanation of the Anomalous Large Angle Scattering (ALAS) by using a nonlinear Schrodinger equation.
- Description of the anisotropy in alpha decay of deformed nuclei.
- Microscopic beyond mean field description of the absolute alpha and cluster decay widths.
- Fine structure of the alpha decay.
- Alpha-like resonances in medium/heavy nuclei.
- Microscopic Anharmonic Vibrator Model (MAVA) for two-phonon states.
- Systematics of proton emission.
- Universal decay rule for reduced decay widths.

Publications:
List of publications is given at:
https://www.nipne.ro/7369-staff_info.html

- **Papers published in ISI journals: 160** (mean number of authors: 3)
  Physical Review **C** (65), Romanian Journal of Physics (37), Nuclear Physics **A** (14), Journal of Physics **G** (12), Physical Review Letters (5), Physics Letters **B** (4), Europhysics Letters (4), Physics Reports (3), International Journal of Modern Physics **E** (2), Physical Review **A** (1), Physical Review **E** (1), Zeitschrift fur Physik **A** (1), etc.
- **Papers published in Proceedings of international conferences: 38**
- **Books: Springer-Verlag (1)**
- **Editor of Conference Proceedings: World Scientific (2), Institute of Physics (2)**

Citations:
List of citations is given at:
https://scholar.google.com/citations?user=i3AkpqgAAAAJ

approx. 2.900 Web of Science citations, (H=29), approx. 3.600 Google Scholar citations (H=32)

Director of national research projects:

1) **CERES 1-64-2001** “Stability of hadron systems in extreme physical conditions” (20.000 euro)
2) **CERES 4-162/2004** “Investigation of the nuclear structure by proton and cluster emission” (20.000 euro)
3) **IDEI 119/2007** “Exploratory studies on stability of nuclear systems” (30.000 euro)
4) **IDEI PN-II-ID-PCE-2011-3-0092** “N-body correlations in exotic nuclear systems” (35.000 euro)

F. INTERNATIONAL COOPERATIONS

Person in charge for international cooperations of IFIN-HH with::

1) FAIR (Darmstadt, Germania)
Reprezentive of Romania as a member of the NUSTAR Council (2008)
2) JINR, Dubna, Russia (Study of the nuclear structure and dynamics)
project No. 01-3-1136-2019/2023 (prof. N. Antonenko)
3) INFN, Italy (Nuclear structure)
Catania University (prof. A.Insolia, M.Baldo and U.Lombardo) 1990-1995 (3 months/year)
Napoli University (prof. N. Lo Iudice) 1993 (1 month)
4) IN2P3, France (Strongly correlated fermionic systems)
Institute des Sciences Nucleaires Grenoble (prof. P. Schuck) 1996, 1998 (3 months/year)
Institute de Physique Nucleaires Orsay (prof. P.Schuck and N.V.Giai)
2000-20018 (1 month/year)

Research cooperation with :

1) Royal Institute of Technology Stockholm, Suedia (alpha and heavy cluster decays)
(prof. R.J. Liotta and R. Wyss) 1996 (6 months), 1997-2018 (1 month/year)
2) Jyvaskyla University, Finland (alpha clustering, beta and double beta decays)
(prof. J. Suhonen) 1997-20018 (1 month/year)
3) Tubingen University, Germany (double beta decay)
(prof. A. Faessler) 1992, 1994, 1996 (1 month/year)
4) Frankfurt/Main University, Germany (cold fission)
(prof. W. Greiner) 2001-2003 (2 months/year)
5) Buenos Aires University, Argentina (alpha clustering)
(prof. G.G. Dussel) 1999 (1 month)
6) KAVLI Institutute of theoretical physics, Bejing, China (alpha decay)
(prof. Z.Z. Ren and F.R. Xu) 2013, 2016 (1 month/year)

G. EDITORIAL ACTIVITY

Member of the Editorial board for :

- Digest Journal of Nanomaterials and Biostructures
http://www.chalcogen.ro/index.php/journals/digest-journal-of-nanomaterials-and-biostructures?showall=&start=2
- Annals of the Academy of Romanian Scientists/Series on Physics and Chemistry
http://aos.ro/editura/analeleaosr/annals-on-physics-and-chemistry

Scientific reviewer for :

Physical Review **C,** Physical Review Letters, Journal of Physics **G**, Nuclear Physics **A,** European Physical Journal **A,** Physics Letters **B,** International Journal of Modern Physics **E,** Chinese Physics **C**, Romanian Journal of Physics.

H. ORGANIZER OF INTERNATIONAL CONFERENCES

- International conference **"Earthquake Prediction and Seismic Risk"**, Bucureşti, 1983 (scientific secretary)
- International Summer School **"New Trends in Theoretical and Experimental Nuclear Physics"**, Predeal,1991 (scientific secretary)
- International Summer School **"Topics in Atomic and Nuclear Collisions"**, Predeal, 1992 (scientific secretary)
- International Summer School **"Collective Motion and Nuclear Dynamics"**, Predeal, 1995 (scientific secretary)
- International conference **"Shell-Model 1997"**, Stockholm, 1997 (scientific secretary)
- International conference **"Advanced Many-body and Statistical Methods in Mesoscopic Systems I"**, Constanta, 2011 (director)
- International Summer School **"Dynamics of open nuclear systems"**, Predeal, 2012 (director)
- International conference **"Advanced Many-body and Statistical Methods in Mesoscopic Systems II"**, Brasov, 2014 (director)
- International conference **"Advanced Many-body and Statistical Methods in Mesoscopic Systems III"**, Busteni, 2017 (director)

I. TEACHING ACTIVITY

"Introduction to Nuclear and Particle Physics": course for young scientists at the Training Center of IFIH-HH.

"Applied physics and biophysics": course for medical assistants (in English) at the Bioterra University, Bucharest.

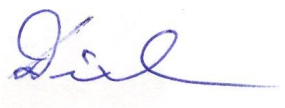
Member of the doctoral school of the Physics faculty - University of Bucharest

PhD supervisor:

1) Alexandru Dumitrescu (*"Investigation of nuclear structure for heavy and superheavy nuclei by using alpha decay"*, 2016, Bucharest)
2) Virgil V. Băran (*"Collective and clustering phenomena: from nuclear systems to fusion plasma"*, 2018, Bucharest)
3) Stefan Ghinescu (*"Investigation of emission processes in extreme physical conditions"*, 2022, Bucharest)

PhD supervisor in cooperation with Prof. J. Suhonen (Univ. Jyvaskyla, Finland)

1) Jenni Kotila (*"Microscopic nuclear structure calculations for the low-lying collective states in even-even nuclei"*, 2007, Jyvaskyla, Finland)
2) Sami Peltonen (*"Alpha-decay fine structure in even-even nuclei"*, 2008, Jyvaskyla, Finland)

Bucharest, July, 2022

Dr. Doru S. Delion