

Publications:

I. Articles:

1. R. A. Gherghescu, D. N. Poenaru, Spontaneous fission of superheavy nuclei, *Pramana Journal of Physics*, 85 (3) (2015) 439-446.
2. D.N. Poenaru, R.A. Gherghescu, Fission approach to cluster radioactivity, *Pramana Journal of Physics*, 85 (3) (2015) 415-421.
3. D. N. Poenaru, R. A. Gherghescu, W. Greiner, Charged Anti-cluster Decay Modes of Antimatter Nuclei, *Rom. Rep. Phys.* to be published.
4. Poenaru, D. N., Gherghescu, R. A., Fission decay of ^{282}Cn studied using cranking inertia, *Journal of Physics G: Nuclear and Particle Physics*, 41 (2014) 125104. LabTalk article
5. Shakib, N.S., Gherghescu, R.A., Poenaru, D. N., Firoozabadi, M.M., Rahimi, M.F., Fission paths influenced by proton and neutron magicity, *Romanian Journal of Physics*, 59 (5-6) (2014) 515-528.
6. Poenaru, D. N., Gherghescu, R. A. and Greiner, W., Nuclear inertia and the decay modes of superheavy nuclei, *Journal of Physics G: Nuclear and Particle Physics* 40 (2013) 105105 HIGHLIGHT 2013.
7. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Alpha- cluster- and fission decay of superheavy nuclei, *Romanian Journal of Physics*, 58 (9-10) (2013) 1157-1166.1157-1166.
8. Gherghescu, R. A., Poenaru, D. N., Shell and pairing influence on sub-barrier nuclear fusion, *Romanian Journal of Physics*, 58 (9-10) (2013) 1178-1187.1178-1187.
9. M. Rizea, N. Carjan, Dynamical scission model, *Nuclear Physics A909*, 50-68 (2013).
10. N. Carjan, F-J. Hamsch, M. Rizea, O. Serot, Partition between the fission fragments of the excitation energy and the neutron multiplicity at scission in low-energy fission, *Physical Review C* 85,044601 (2012)
11. Poenaru, D. N., Gherghescu, R. A. and Greiner, W., Cluster decay of superheavy nuclei, *Physical Review C* 85 (2012) 034615.
12. Poenaru, D. N., Gherghescu, R. A. and Greiner, W., Simple relationships for alpha-decay half-lives, *Journal of Nuclear Physics G: Nuclear and Particle Physics* 39 (2012) 015105. HIGHLIGHT2012: freely available until 31st December 2013.
13. Poenaru, D. N., Gherghescu, R. A. and Greiner, W., Competition of alpha decay and heavy particle decay in superheavy nuclei, *International Journal of Modern Physics E* 21 (2012) 1250022.
14. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Metallic atomic clusters, *Romanian Journal of Physics* 57 (2012) 431441.
15. Poenaru, D. N., Gherghescu, R. A., Anghel, C., Greiner, W., Using Lipkin-Nogami and BCS pairing within macroscopic-microscopic method, *Romanian Reports in Physics* 64, Supplement (2012) 1329-1343.

16. Poenaru, D. N., Gherghescu, R. A. and Greiner, W., Heavy-Particle Radioactivity of Superheavy Nuclei, *Physical Review Letters* 107 (2011) 062503.
17. Poenaru, D. N., Gherghescu, R. A. and Greiner, W., Single universal curve for cluster radioactivities and alpha decay, *Physical Review C* 83 (2011) 014601.
18. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Fissility of nuclear and atomic cluster systems, *Romanian Reports in Physics* 63, Supplement (2011) 1133-1146.

II. Conferences:

1. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Shakib, N. S., How rare is cluster decay of superheavy nuclei, in *Nuclear Physics: Present and Future (FIAS Interdisciplinary Science Series)*, (Springer International Publishing, Switzerland, 2015) Ed. W. Greiner, pp. 131-140, ISBN 978-3-319-10198-9, 978-3-10199-6 (eBook).
2. Poenaru, D. N., Gherghescu, R. A., Newest developments in Cluster Radioactivity, *Proc. of the International Workshop on Collectivity in Relativistic Heavy Ion Collisions*, held in Kolymbari, Crete, Greece, 2014 (Barcelona, 2015) Eds. L. Bravina, V.K. Magas, A. Feijoo, pp. 168-177.
3. D.N. Poenaru, R.A. Gherghescu, W. Greiner, Anti-cluster decay and anti-alpha decay of antimatter nuclei, 34th Workshop on Nuclear Theory, Goverdatsi, Rila Mountain, Bulgaria, 2015.
4. R.A. Gherghescu, D.N. Poenaru, Influence of cranking inertia on binary nuclear processes, 34th Workshop on Nuclear Theory, Goverdatsi, Rila Mountain, Bulgaria, 2015.
5. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Cluster decay of the heaviest superheavy nuclei. Invited talk, *Proc. of the Fifth International Conference on Fission and Properties of Neutron Rich Nuclei*, Sanibel Island, Florida, USA, 2012, Eds. J. H. Hamilton, A. V. Ramaya (World Scientific, Singapore, 2014) pp. 152-159. ISBN 978-981-4525-42-8. D. N. Poenaru — Member of the International Advisory Committee.
6. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Heavy-particle radioactivity. Invited talk, in *Journal of Physics: Conference Series*, 436 (2013) 012056.
7. Poenaru, D. N., Gherghescu, R. A., Greiner, W., How rare is cluster decay of superheavy nuclei. Invited talk, *International Symposium on "Nuclear Physics: Presence and Future"*, Boppard, Germany, 2013.
8. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Main decay modes of superheavy nuclei. Invited talk, *International Workshop Frontiers in Nuclear Physics*, France, Guadeloupe, (Langley Resort Fort Royal Petit Bas Vent 97126 Deshaies) 2013.
9. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Unexpected strong decay mode of superheavy nuclei. Invited talk, in *Exciting Interdisciplinary Physics (FIAS Interdisciplinary Science Series)*, Ed. W. Greiner (Springer, Heidelberg, 2013) pp. 91-101, ISBN 978-3-319-00046-6, 978-3-319-00047-3 (eBook).
10. Gherghescu, R. A., Poenaru, D. N., Greiner, W., Pairing influence in binary nuclear systems. Invited talk, in *Exciting Interdisciplinary Physics (FIAS Interdisciplinary Science Series)*, Ed. W. Greiner (Springer, Heidelberg, 2013) pp. 91-101, ISBN 978-3-319-00046-6, 978-3-319-00047-3 (eBook).

11. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Cluster radioactivity and alpha decay of superheavy nuclei. Invited talk, in Proc. of the 4-th International Conference on Current Problems in Nuclear Physics and Atomic Energy (NPAE-Kyiv2012), Part I (Institute for Nuclear Research of the National Academy of Sciences of Ukraine, 2013), Ed. I. M. Vyshnevskiy, pp. 57-61 ISBN 978-966-02-6751-0.
12. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Alpha- and cluster decays of superheavy nuclei, Oral contribution, 2nd European Nuclear Physics Conference - EuNPC 2012, Bucharest, 2012.
13. Poenaru, D. N., Gherghescu, R. A., Greiner, W., Extensions of fission theory of nuclear cluster decay. Invited talk, International Symposium Highlights in Heavy-Ion Physics, in honour of Nikola Cindro, 2011, Split, Croatia.
14. Gherghescu, R. A., Poenaru, D. N., Greiner, W., Pairing interaction in nuclear binary systems. Invited talk, International Symposium Highlights in Heavy-Ion Physics, in honour of Nikola Cindro, 2011, Split, Croatia.
15. Poenaru, D. N., Greiner, W., Theory and experiments on heavy-ion radioactivities. Invited talk, International Symposium Nucleus-100 "The Centenary of Atomic Nucleus" dedicated to the discovery of atomic nucleus by Ernest Rutherford in 1911 and 55th Anniversary of JINR Dubna, JINR Dubna, 2011, Proc.: JINR Dubna and The Centenary of Atomic Nucleus (OYAI i stoletie otkritia atomnogo yadra) (Proc. Symposium, JINR Dubna, 2011), (Fizmatlit, Moscow, 2013) Eds. Yu.Ts. Oganessian, A.I. Vdovin, pp. 126-143.