Greiner Walter

Position: Founding Director Frankfurt Institute for Advanced Studies

Period covered:

I Scientific Work

II Conferences and educational activities

Conferences and Other External Scientific Work

Very many

Work With Students

With very many

Diploma thesis supervision

Ph-thesis, all together more than 150

Work With Postdocs

More than 120 Alexander von Humboldt-fellows

III Service activities

Within ICRANet

Close collaboration with Prof. Ruffini

-many joint interests

-talks at Frankfurt and Pescara
IV 2007-2008 List of Publications

1. V.N.Tarasov, D.V.Tarasov, K.A.Gridnev, D.K.Gridnev, V.G.Kartavenko, W.Greiner, V.E.Mitroshin
Neutron-deficient and neutron-rich isotopes Fe and Ni near the drip-line
Notes of Russian Academy of Science N5, 2007

2. I.A.Solov'yov, Walter Greiner
Theoretical analysis of an iron mineral-based magnetoreceptor model in birds
Biophysical Journal 93, 2007 (1-17)

3. M.Tabrizi, A.V.Korol, A.V.Solov'yov and Walter Greiner
Feasibility of an electron-based crystalline undulator

4. Raj K.Gupta, Dalip Singh and Walter Greiner
Semiclassical and microscopic calculations of the spin-orbit density part of the Skyrme nucleus-nucleus interaction potential with temperature effects included
Physical Review C 75, 2007 (024603), 12pp

5. I. Pshenichnov, I. Mishustin, Walter Greiner,
MCHIT - Monte Carlo model for proton and heavy-ion therapy,

An electron-based crystalline undulator

7. A.V.Korol, A.V.Solov'yov, Walter Greiner
Parameters of the crystalline undulator and its radiation for particular experimental conditions

Proton-neutron deformations in 16C and their consequences
Submittes Journals of Physics G, October 2007

Nuclear halo: A deformation effect

10. D.N.Poenaru, R.A.Gherghescu, A.V.Solov'yov, Walter Greiner
Liquid drop stability of a superdeformed prolate semi-spheroidal atomic cluster
11. Raj K. Gupta, Dalip Singh and Walter Greiner (fias)
Semiclassical and microscopic calculations of the spin-orbit density part of Skyrme nucleus-nucleus interaction potential with temperature effects included

12. Raj K. Gupta, S. K. Patra, P. D. Stevenson and Walter Greiner
A highly neutron-rich cluster and / or Superheavy nucleus in the
Compound Nucleus 238U+238U: A Mean Field Study

13. Thomas J. Buervenich, Igor N. Mishustin, and Walter Greiner
Nuclei embedded in an electron gas
Submitted to Phys. Rev. C

14. D. N. Poenaru, I. H. Plonski, Walter Greiner (fias)
Saddle point shapes of nuclei
Invited talk at the 6th General International Conference of the Balkan Physical Union
(PBU-6) Istambul, Turkey, August 22-26, 2006

15. Raj K. Gupta, M. Manhas, S. Hofmann, Walter Greiner
Role of static deformation and compact orientation of target nucleus in measured fusion
cross-section of 244Pu+48Ca reaction

16. S. Yu. Torilov, K. A. Gridnev, Walter Greiner
Chain configurations in the light nuclei
Accepted for publication in IJMPE in June 2007

17. P. O. Hess, Walter Greiner
Shift of the GKZ limit in the cosmic ray spectrum due to a smallest length scale

18. A. G. Lyalin, I. A. Solov'yov, A. V. Solov'yov, Walter Greiner
Stability of charged atomic clusters
Romanian Reports in Physics 2007, accepted

19. I. Pshenichnov, I. Mishustin, Walter Greiner
Comparative study of depth-dose distributions for beams of light and heavy nuclei in
tissue-like media
Submitted to Physics in Medicine and Biology, April 2007

20. P. O. Hess, Walter Greiner
Pseudo-complex field theory
21. A.V. Yakubovich, I.A. Solov'yov, A.V. Solov'yov, Walter Greiner
Ab initio theory of alpha-helix ↔ coil phase transition
European Physical Journal D, 2007

22. I.A. Solov'yov, A.V. Yakubovich, A.V. Solov'yov, Walter Greiner
Alpha-helix ↔ Coil Phase Transition: Analysis of Ab Initio Theory Predictions
European Physical Journal D 2007

23. I.A. Solov'yov, A.V. Yakubovich, A.V. Solov'yov, Walter Greiner
Two-center-multipole expansion method: Application to macromolecular systems

24. Walter Greiner, V. Zagrebaev
Giant quasi-atoms and superheavy nuclei produced in damped collisions of transactinides

25. Thomas J. Bürvenich, Igor N. Mishustin, Walter Greiner
Nuclei embedded in an electron gas

26. O.I. Obolensky, V.V. Semenikhina, A.V. Solov'yov, W. Greiner
Interplay of electrostatic and van der Waals forces in dimer of coronene

27. A.G. Lyalin, I.A. Solov'yov, A.V. Solov'yov, W. Greiner
Interplay of Electronic and Geometric Shell Effects in Properties of Neutral and Charged Strontium Clusters

28. A.V. Yakubovich, I.A. Solov'yov, A.V. Solov'yov, Walter Greiner
Ab initio description of phase transitions in finite bio-nano systems
Europhysics News 38, p. 10, 2007

29. P.O. Hess, Walter Greiner
Extending the GKZ limit without breaking Lorentz Invariance

30. I.A. Solov'yov, Walter Greiner
Towards an understanding of the mechanism of magnetoreceptor in birds
submitted in EPJ

31. S.K. Patra, Raj K. Gupta, B.K. Sharma, P.D. Stevenson, Walter Greiner
Exotic clustering in heavy and superheavy nuclei within the relativistic and non-relativistic mean field formalisms

32. Walter Greiner
A new insight in the decay modes of heavy nuclei
Romanian Reports in Physics, Vol. 59, No 2, 193-204, 2007

Fission of hyper-hyperdeformed 56Ni: a clustering analysis with in mean-field approaches

34. O. I. Obolensky, E. Surdutovich, I. Pshenichnov, I. Mishustin, A. V. Solov'yov, Walter Greiner
Ion beam cancer therapy: fundamental aspects of the problem
Submitted October 2007

35. A. Kostyuk, A. V. Korol, A. V. Solov'yov, Walter Greiner
The influence of the structure imperfectness of a crystalline undulator of the emission spectrum
Submitted October 2007

36. A. Kostyuk, A. V. Korol, A. V. Solov'yov, Walter Greiner
One-dimensional Model of a Gamma Klystron
Submitted October 2007

37. Reflections on my youth and early years in science - final remarks - thank you!

38. D. N. Poenaru, Walter Greiner
A variational method for equilibrium nuclear phase.

39. I. A. Solov'yov and W. Greiner
Theoretical analysis of an iron mineral-based magnetoreceptor model in birds

40. Model of binding alpha-particles and structure of the light nuclei.

41. Heavy particle radioactivities.
42. Collisions of transactinides: Superheavy nuclei and giant nuclear molecules.  

Published in Int.J.Mod.Phys.D16, nos. 2-3, Feb 2007

44. Equilibration of matter in relativistic heavy-ion collisions. 

Prepared for International Conference on Nucleus-Nucleus Collisions, Rio de Janeiro, Brazil, 28 Aug - 1 Sep 2006. 

46. Clusters of matter and antimatter. 
Prepared for 2nd Cairo International Conference on High Energy Physics (CICHEP 2), Cairo, Egypt, 14-17 Jan 2006. 
Published in AIP Conf.Proc.881:156-166, 2007. Also in *Cairo 2006, High energy physics* 156-166

47. V.I. Zagrebaev, V.V. Samarin (Dubna, JINR), Walter Greiner (Frankfurt U., FIAS). 
Sub-barrier fusion of neutron-rich nuclei and its astrophysical consequences. 
Published in Phys.Rev.C75:035809,2007. 11pp

48. Zagrebaev V, Karpov A, Aritomo Y, Naumenko, M., Greiner, Walter 
Potential energy of a heavy nuclear system in fusion-fission processes 
49. Zagrebaev V, Greiner W
Superheavy nuclei and giant quasi-atoms
Nuclear Physics A 787: 363C-372C, 2007

50. Zagrebaev V, Greiner W
Low-energy collisions of heavy nuclei: dynamics of sticking, mass transfer and fusion

51. Walter Greiner
A New Insight in the Decay Modes of Heavy Nuclei
Dedicated to Prof. Dorin N. Poenaru's 70th Anniversary