GOTTFRIED HOLZWARTH

List of publications (Journals and/or arXiv)

1. Elastic scattering of relativistic electrons by screened gold and mercury nuclei (with H.J. Meister)
   Nucl.Phys. 59 (1964) 56

2. Polarization effects in electron-electron and positron-electron scattering
   Z.Phys. 191 (1966) 354

3. A microscopic theory of nuclear collective motion
   Nucl.Phys. A 113 (1968) 448

4. Microscopic aspects of the nuclear collective model (II)
   Nucl.Phys. A 133 (1969) 161

5. The transition spherical-deformed for collective $K = 0$ states in even nuclei

6. On the treatment of anharmonicities in the collective spectra of intermediate nuclei

7. The collective structure of the intermediate nuclei $^{78}Se$ and $^{102}Ru$
   (with S.G. Lie)
   Z.Phys. 249 (1972) 332

8. The connection between the generator method and Bose expansions
   Nucl.Phys. A 185 (1972) 268

9. Boson expansions and Hartree-Bogoliubov theory
   (with E.R. Marshalek)
   Nucl.Phys. A 191 (1972) 438

10. Four approaches to the function of inertia in a solvable model
    Nucl.Phys. A 207 (1973) 545

11. Choice of the constraining operator in the constrained Hartree-Fock method
    (with T. Yukawa)
12. Population of muonic $^{3}\text{He}$ states following the $\mu$-catalysed fusion $p\mu d \rightarrow \mu^{3}\text{He}$
(with M. Kleber)

13. The muonic X-ray cascade in Fluorine following the $\mu$-transfer from Hydrogen
(with H.J. Pfeiffer)
Z.Phys. A 272 (1975) 311

14. Application of the boson-expansion method to even Se and Ru isotopes
(with S.G. Lie)

15. Application of the Marumori Bose-expansion to transitional nuclei
(with S.G. Lie)
Fisika (Zagreb) 7 (1975) 1

16. On the validity of the boson method for transitional nuclei
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Nucl.Phys. A 261 (1976) 1

17. Static and dynamical Thomas Fermi theory for nuclei
Phys.Lett. 66 B (1977) 29

18. Selfconsistent Thomas Fermi method for spherical nuclei
(with G. Eckart)

19. Density compression in colliding nuclear slabs
Phys.Rev. C 16 (1977) 885

20. The nuclear twist
(with G. Eckart)

21. Giant resonances: A comparison between TDHF and fluid dynamics in small amplitude vibrations of spherical nuclei
(with. H. Sagawa)

22. Nuclear fluid dynamics
(with G. Eckart)

23. Vorticity in nuclear fluid dynamics
(with D. Schütte)
Phys.Lett. 73 B (1978) 255
24. The influence of the pairing degrees of freedom on the collective excited states
   (with F. Sakata)
   Progr. Theor. Phys. 61 (1979) 1649

25. Fluidodynamical approximation for finite Fermi systems
   (with G. Eckart)
   Nucl. Phys. A 325 (1979) 1

26. Dynamical Thomas-Fermi theory for giant monopole resonances
   (with G. Eckart)
   Phys. Lett. 87 B (1979) 147

27. Excitation of the $2^-$ twist mode by inelastic electron scattering
   (with B. Schwesinger and K. Pingel)
   Nucl. Phys. A 341 (1980) 1

28. Electric multipole modes in the fluid-dynamical approximation
   (with G. Eckart and B. Schwesinger)

29. First sound versus zero sound in finite Fermi systems
   (with G. Eckart and J.P. da Providencia)

30. Landau theory of Fermi liquids and nuclear fluid dynamics
    (with T. Yukawa)

31. Flow patterns of giant resonances in first and zero sound approximation
    (with H. Koch, G. Eckart and B. Schwesinger)

32. Sum rules and strength functions in nuclear fluid dynamics
    (with G. Eckart)

33. Nuclear fluid dynamics for giant resonances
    (with G. Eckart)

34. Variational approach to nuclear fluid dynamics
    (with J.P. da Providencia)
35. Spreading width of giant resonances and the attenuation of zero sound  
   (with K. Ando and A. Ikeda)  

36. Doorway-state analysis of the fine structure in the giant quadrupole resonance  
   in $^{208}$Pb observed in inelastic electron scattering  
   (with J. Winchenbach, K. Pingel, G. Kühner, A. Richter)  

37. Spreading width of giant resonances in fluid-dynamical approximation  
   (with K. Ando and A. Hayashi)  

38. Excited nucleon states in the Skyrme model  
   (with A. Hayashi)  

39. Pion-Nucleon scattering phase shifts in the Skyrme model  
   (with A. Hayashi, G. Eckart and H. Walliser)  

40. Effect of the Pauli principle on collective states in transitional Xe, Ba and Ce nuclei  
   (with U. Kaup)  

41. Low-lying nuclear collective states and giant resonances in nuclear fluid dynamics  
   (with J.P. da Providencia)  

42. Das Skyrme-Modell  
   Physikalische Blätter, Heft 11, (1985), 378

43. Baryons in the Skyrme model  
   (with B. Schwesinger)  
   Reports on Progress in Physics 49 (1986) 825-872

44. Geometrical and dynamical aspects of skyrmion fluctuations  
   (with G. Eckart and A. Hayashi)  

45. Baryon-Antibaryon configurations in the Skyrme model  
   (with H. Walliser and A. Hayashi)  
46. Exotic baryon number B=2 states in the SU(2) Skyrme model
  (with H. Weigel and B. Schwesinger)

47. The width of the $\Delta$ (1232) resonance in the Skyrme model
  (with A. Hayashi and B. Schwesinger)

48. The Skyrme soliton in pion-, vector- and scalar- meson fields: $\pi N$-scattering
  and photoproduction
  (with A. Hayashi, B. Schwesinger and H. Weigel)

49. The moment of inertia for Skyrme solitons in the presence of vector mesons
  (with B. Stötzel and H. Walliser)

50. The intermediate-range attraction of the nucleon-nucleon force in a Skyrme
  model with explicit $\sigma$-mesons
  (with H. Yabu and B. Schwesinger)

51. Elastic pion nucleon P-wave scattering in soliton models

52. Low-energy pion-nucleon P-wave scattering in the Skyrme-model
  (with G. Pari and B.K. Jennings)

53. A comment on the status of Skyrme model results for $\pi N$-scattering
  $\pi N$ Newsletter 2 (1990) 75-80
  G.Hoehler, W.Kluge and B.Nefkens (Eds.)

54. Low-energy S-wave pion-nucleon scattering in the Skyrme model: a PWBA-
  analysis
  (with H. Walliser and G. Pari)

55. $\pi$-N scattering in Skyrme-type models
  Fourth Intern. Symp. on Pion-Nucleon Physics and the Structure of the
  Nucleon, Bad Honnef, Sept. 9-13, 1991
  R.E. Cutkosky, G.Hoehler, W.Kluge and B.Nefkens (Eds.)
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56. Low-energy $\pi N$ S-wave scattering in the vector meson extended Skyrme model
   (with D. Masak and H. Walliser)

57. Quantum corrections to nucleon and delta mass in the Skyrme model

58. The Gottfried sum rule in the soliton model for baryons
   (with H. Walliser)

59. The mass of the nucleon in the Skyrme model
   V. Intern. Symposium on Meson-Nucleon Physics and the Structure of the
   Nucleon, Boulder, Colorado, 1993;
   $\pi N$ Newsletter 8 (1993) 86-91
   G. Hoehler, W. Kluge, B. Neffens (Eds.), ISSN 0942-4148

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61. Quantum corrections to the skyrmion mass
   (with H. Walliser)

62. The Electromagnetic Form Factors of the Proton in Chiral Soliton Models
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63. Baryons as Solitons in Effective Chiral Field Theories
   Lecture at Int. School of Nuclear Physics Ettore Majorana Centre,
   Erice, Sept. 1995
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64. Electro-Magnetic Nucleon Form Factors and their Spectral Functions in Soli-
   ton Models
   hep-ph/9606336

65. Electro-excitation amplitudes of the $\Delta$-isobar in the Skyrme model
   (with H. Walliser)
   Z. Physik A 357 (1997) 317-324
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66. Skyrme-model $\pi NN$ form factor and nucleon-nucleon interaction
   (with R. Machleidt)
   hep-ph/9610041

67. Baryon number conservation and the formation of disoriented chiral condensates
   hep-ph/9612370

68. Chiral Phase Transition and Baryon Number Conversation
   hep-ph/9712431

69. Formation of extended topological defects during symmetry breaking phase transitions in O(2) and O(3) models
   hep-ph/9901296

70. Skyrmions and bags in the 2-D-O(3) model
   hep-ph/9905473

71. The Casimir energy of skyrmions in the (2+1)-dimensional O(3) model
   (with H. Walliser)
   hep-ph/9907492

72. Skyrme model and electromagnetic form-factors of the nucleon
   Workshop on the Structure of the Nucleon (Nucleon 99), Frascati, Italy, 7-9 Jun 1999.

73. Features of phase ordering in (2+1) D-O(3) models
   (with J. Klomfass)
   hep-ph/0009061

74. DCC dynamics in (2+1)-dimensions 0(3) model
   hep-ph/0107034
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75. Disoriented chiral condensate dynamics in the (2+1)-dimensional O(3) model
76. Electromagnetic form-factors of the nucleon in the chiral soliton model  
   hep-ph/0201138  
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   (with J. Klomfass)  
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   rapidly expanding Bjorken rods  
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   hep-ph/0511194
List of publications (Proceedings)

1. "On a Microscopic Theory of Intermediate Nuclei"
   in 'Les Noyaux de Transition' Rapport Colloquium on intermediate nuclei,
   June 30 - July 2, 1971, Institut de Physique Nucleaire d'Orsay, (1971), 49-53

2. "Boson Approach to Transitional Nuclei"
   "Fluid Dynamics and Large Amplitude Collective Motion"
   "Boson Approach to Transitional Nuclei" (with D. Janssen and R.V. Jolos)
   Proceedings of the Colloque Franco-Japonais de Spectroscopie Nucleaire, Do-
gashima 20-23 September, (1976)
   and INS Symposium on Nuclear Collectivity, Tokyo 20-25, September,(1976)
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   Institute for Nuclear Study, University of Tokyo, 1976

3. "Fluid Dynamics versus TDHF"
   in 'Heavy-Ion Collisions'
   Proc. of Fall Creek Falls Meeting, Pikeville TN, USA, June 13-17, 1977
   Oak Ridge Nat. Lab. 1977

4. "Fluid-Dynamical Approximation for Finite Fermi Systems"
   in 'Giant Multipole Resonances', Proc. of the GMR Topical Conference, Oak
   Ridge, TN, USA, October 15-17, (1979) 445 (F.E. Bertrand, Ed.)

5. "The Application of Dynamical Thomas-Fermi-Theory to Nuclear Collective
   Motion" (with G. Eckart)
   IV. Balaton Conference on Nuclear Physics;
   Proceedings of the EPS Topical Conference on 'Large Amplitude Collective
   Nuclear Motion',
   Keszthely - Hungary, 10-16. June (1979), VOLUME 1, 198-207

6. "Multi-Phonon Approach to Quadrupole Boson Hamiltonians
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7. "Nuclear Fluid Dynamics for Giant Resonances"
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   Proc. of the Int. Conf. on Nuclear Structure,


16. "Baryon Resonances in Effective Meson Theories"
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   B.Nefkens (Ed.), Los Alamos, NM, August 1987, 220-236

17. "Baryons as solitons in meson fields"
   Proceedings of the Fourth Students’ Workshop on Electromagnetic Interactions
   D.Drechsel (Ed.), Bosen (Saar), 1987, 92-109

18. "The πN-System in a Model of Skyrmions and Vector Mesons"
   Academy of Science of the USSR; Nuclear Physics Inst.;
   Proceedings of the third International Symposium
   ‘Pion-Nucleon and Nucleon-Nucleon Physics’,
   Gatchina, USSR, April 1989, Vol.2, 318-337

19. "Skyrmions and Vector Mesons"
   In: P.W-Y.Hwang and J.Speth, (Eds.): Proc. of Chinese-German Symposium
   on Medium Energy Physics ‘Progress in Medium Energy Physics’, Singapore:
   World Scientific (1990) 91-108

20. Lecture series on
   "Recent developments in the Soliton Model for Baryons"
   Proceedings of the 'Workshop on Hadron Physics' at Ubatuba
   Sao Paulo, Brasil, 1992

21. "Low-energy π-N scattering S and P waves and quantum corrections to the
    soliton mass"
    in: 'Baryons as Skyrme solitons', Int. Workshop at Siegen 1992,
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24. ”Chiral Symmetry Restoration and Baryon Number Conservation”
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Hirschegg, Austria, January 13-18, 1997, 232-236
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25. ”Baryons in the Soliton Model”
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FZ Jülich, May 2-3 2000, (T. Barnes and H.-P. Morsch, Eds.) Matter and

26. Editor of:
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