

# List of Publications

Hans-Rainer Trebin

## Academic Issues:

1. Trebin H-R 1972  
Diplomarbeit Universität München  
Untersuchung der Bandstruktur von Titankarbid
2. Trebin H-R 1976  
Dissertation Universität Regensburg  
Polaronen und Exziton-Phonon-Wechselwirkung bei Valenzbandentartung
3. Trebin H-R 1982  
Habilitationsschrift Universität Regensburg  
The topology of non-uniform media in condensed matter physics

## Books

1. Issues dedicated to Professor Dr. Alfred Seeger in honour of his 60th birthday  
physica status solidi (a) 104 No. 1  
physica status solidi (b) 144 No. 1  
Guest Editors: Kröner E, Kronmüller H, Trebin H-R, Wilkens M  
Akademie-Verlag Berlin 1987
2. "Theories of Matter", A Festschrift for Prof. Joseph L. Birman  
Editor Solomon A, Co-Editors Balkanski M, Trebin H-R  
World Scientific 1994
3. Proceedings of the 7th International Conference on Quasicrystals  
Special Issue of Materials Science and Engineering A  
Guest Editors: Gähler F, Kramer P, Trebin H-R, Urban K  
Elsevier Science 2000
4. "Quasicrystals: Structure and Physical Properties"  
Editor Trebin H-R  
Wiley-VCH 2003
5. "Recent Developments in Magnetism and Modern Magnetic Materials"  
Dedicated to Manfred Fähnle on the occasion of his 60th birthday  
Special issue physica status solidi (b) 248 No. 10  
Guest Editors: Kronmüller H, Seeger A, Schütz G, Trebin H-R  
Wiley-VCH 2011

## Publications:

1. Tongendorff J, Trebin R, Ruhenstroth-Bauer G 1975  
Am. J. Path. **80** 519–24  
Critique of the critical mass hypothesis of the regeneration of liver cells
2. Trebin H-R, Bross H 1975  
J. Phys. **C8** 1181–8  
MAPW band-structure calculations for TiC with muffin-tin and angular-dependent potentials

3. Trebin H-R, Rössler U 1975  
phys. stat. sol. (b)**70** 717–26  
Polarons in the degenerate-band case
4. Trebin H-R 1977  
phys. stat. sol. (b)**81** 527–34  
Polarons in the degenerate-band case II
5. Ranvaud R, Pollak FH, Rössler U, Trebin H-R 1977  
in: Proceedings of the 13th Int. Conf. on the Physics of Semiconductors Rome 1976, ed. Fumi FG (Tipografia Marves, Rome) p. 1171  
Evidence for stress-induced k-linear terms for QCR data in p-InSb
6. Trebin H-R, Cardona M, Ranvaud R, Rössler U 1978  
in: Proceedings of the III. Int. Conference on the Physics of Narrow Band-Gap Semiconductors, Warszawa 1977, ed. Rauluszkiewicz J, Gorska M, Kaczmarek-Morawiec E (North-Holland, Amsterdam) p. 227  
Stress-induced k-linear terms in the band-structure of InSb
7. Trebin H-R 1979  
phys. stat. sol. (b)**92** 601–10  
Exciton-phonon interaction in the degenerate-band case
8. Trebin H-R, Rössler U 1979  
J. Magnetism. Magn. Mat. **11** 76–9  
Landau levels in uniaxially stressed compounds of zinc-blende structure
9. Trebin H-R, Rössler U, Ranvaud R 1979  
Phys. Rev. **B20** 686–700  
Quantum resonances in the valence bands of zincblende semiconductors. I. Theoretical aspects
10. Ranvaud R, Trebin H-R, Rössler U, Pollak FH 1979  
Phys. Rev. **B20** 701–15  
Quantum resonances in the valence bands of zincblende semiconductors. II. Results for p-InSb under uniaxial stress
11. Trebin H-R, Cummins HZ, Birman JL 1981  
Phys. Rev. **B23** 597–606  
Excitons in cuprous oxide under uniaxial stress
12. Trebin H-R 1981  
MATCH **10** 211–22  
Investigation of defects in ordered media by methods of algebraic topology
13. Rössler U, Trebin H-R 1981  
Phys. Rev. **B23** 1961–70  
Exchange and polaron corrections for excitons in the degenerate-band case
14. Jänich K, Trebin H-R 1981  
in: "Physics of Defects", Proceedings of Session XXXV of the Summer School for Theoretical Physics, Les Houches 1980, eds. Balian R, Kléman M, Poirier J-P, North-Holland, p. 421–29  
Disentanglement of line defects in ordered media
15. Trebin H-R, Kutka R 1981  
J. Physique Lettr. **42** L421–3  
Restricted homotopies and focal conic textures
16. Trebin H-R 1981  
J. Physique **42** 1573–6  
Elastic energies of a directional medium
17. Trebin H-R 1982  
Adv. Phys. **31** 195–254  
The topology of non-uniform media in condensed matter physics

18. Mysyrowicz A, Trauernicht DP, Wolfe JP, Trebin H-R 1983  
Phys. Rev. **B27** 2562–4  
Stress dependence of the paraexciton in  $\text{Cu}_2\text{O}$
19. Trebin H-R 1983  
Phys. Rev. Lett. **50** 1381–4  
Configurations in crystals, rod lattices, and lamellar systems
20. Wolfstädter B, Trebin H-R, Pascher H 1983  
in: Lecture Notes in Physics **177**, ed. Landwehr G (Springer, Berlin) p. 340-3  
Optically pumped recombination radiation in zincblende semiconductors under crossed magnetic and strain fields
21. Trebin H-R, Bross H 1984  
J. Phys. F: Met. Phys. **14** 1453–69  
Electron density and density of states for TiC
22. Trebin H-R 1984  
Phys. Rev. **B30** 4338–42  
Defects in frustrated media: classification by homology groups
23. Kutka R, Trebin H-R 1984  
J. Physique Lettr. **45** 1119–23  
Semidefects
24. Birman JL, Trebin H-R 1984  
in: Proceedings of the XIIIth International Colloquium on Group Theoretical Methods in Physics, ed. Zachary WW, World Scientific, p. 457–60  
"Statistical" symmetry and phase transitions of mesomorphic phases
25. Birman JL, Trebin H-R 1985  
J. Stat. Phys. **38** 371–91  
"Statistical" symmetry with applications to phase transitions
26. Trebin H-R 1985  
in: "Spontaneous Symmetry Breakdown and Related Subjects", Proceedings of the XXI Winter School of Theoretical Physics, Karpacz 1985, eds. Michel L, Mozrzyk J, Pękalski A, World Scientific, p. 61–79  
Topological defects in systems of broken symmetry
27. Trebin H-R 1986  
in: Trends in Applications of Pure Mathematics to Mechanics, Lecture Notes in Physics **249**, eds. Kröner E, Kirchgässner K (Springer Berlin), p. 102–13  
The topology of semidefects and solitons
28. Bohsung J, Trebin H-R 1987  
Phys. Rev. Lett. **58** 1204–7 E 2277-80  
Disclinations in quasicrystals
29. Longa L, Monselesan D, Trebin H-R 1987  
Liq. Cryst. **2** 769–96  
An extension of the Landau-Ginzburg-deGennes theory for liquid crystals
30. Trebin H-R, Longa L, Salzgeber B 1987  
phys. stat. sol. (b) **144** 73–84  
Metallic glasses and chiral nematic liquid crystals
31. Trebin H-R, Wolfstädter B, Pascher H, Häfele HG 1988  
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Electrons and holes in InSb under crossed magnetic and stress fields. I. Theory
32. Wolfstädter B, Trebin H-R, Pascher H, Häfele HG 1988  
Phys. Rev. **B37** 10256–9  
Electrons and holes in InSb under crossed magnetic and stress fields. II. Recombination radiation

33. Wolfstädter B, Trebin H-R, Pascher H, Häfele HG 1988  
Phys. Rev. **B37** 10260–3  
Electrons and holes in InSb under crossed magnetic and stress fields. III. Magnetoreflexion
34. Wolfstädter B, Trebin H-R, Pascher H, Häfele HG 1988  
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35. Trebin H-R 1988  
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36. Roth J, Bohsung J, Schilling R, Trebin H-R 1988  
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Stability of quasicrystals
37. Trebin H-R 1988  
in: Lecture Notes in Physics **313**, Group Theoretical Methods in Physics, Proceedings Varna, Bulgaria 1987, eds. Doebner H-D, Hennig J-D, Palev TD (Springer) , p. 383–98  
The topological theory of semidefects
38. Trebin H-R 1988  
in: "Metallische Erstarrung", R.U. Bochum/DLR-Kurzschule Juni 1988  
Quasikristalle
39. Rössler U, Schmitz J, Trebin H-R 1989  
in: Proceedings of the 19<sup>th</sup> Int. Conference on the Physics of Semiconductors Warsaw, 1988, ed. Zawadzki W, Pol. Acad. of Science, Warsaw, p. 916  
A focus of Landau-levels in HgSe
40. Longa L, Trebin H-R 1989  
Phys. Rev. **A39** 2160–8  
Structure of the elastic free-energy for chiral nematic liquid crystals
41. Longa L, Trebin H-R 1989  
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42. Longa L, Monselesan D, Trebin H-R 1989  
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Phase diagrams of cholesteric liquid crystals obtained with a generalized Landau-deGennes theory
43. Bohsung J, Trebin H-R 1989  
in: Aperiodicity and Order 2, ed. Jarić MV, Academic Press Boston (1989) S.183–221  
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44. Kutka R, Trebin H-R, Kiemes M 1989  
J. Phys. France **50** 861–85  
The topological theory of semidefects in ordered media
45. Penzenstadler E, Trebin H-R 1989  
J. Phys. France **50** 1027–40  
Point defects and soliton decay in nematic liquid crystals
46. Monselesan D, Trebin H-R 1989  
phys. stat. sol. (b) **155** 349–58  
Temperature dependence of the elastic constants for biaxial nematic liquid crystals
47. Roth R, Schilling R, Trebin H-R 1990  
Phys. Rev. **B41** 2735–47  
Stability of monatomic and diatomic quasicrystals and the influence of noise

48. Peters J, Trebin H-R 1990  
in: Proceedings of the Anniversary Adriatico Research Conference on Quasicrystals, Trieste, 4-7 July 1989, ed. Jarić MV and Lundquist S, World Scientific, p. 161–8  
Tetracoordinated quasicrystals
49. Kramer P, Trebin H-R 1990  
Physikalische Blätter **46** Nr. 1 18–9  
Zum Titelbild des Jahrgangs 1990: Makroskopische Quasikristalle
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Spontaneous polarization in chiral biaxial liquid crystals
51. Wirth M, Trebin H-R 1990  
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The most simple icosahedral quasicrystal with continuous phasons
52. Trebin H-R 1990  
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53. Peters J, Trebin H-R 1991  
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Feasibility of fast particle channeling in quasicrystals
55. Schmitz J, Trebin H-R, Rössler U 1991  
Computer Physics Communications **66** 308–18  
TRS: a program to calculate Landau levels and direct dipole transitions in uniaxially stressed semiconductors
56. Stark H, Trebin H-R 1991  
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Theory of electrostriction of liquid crystalline blue phases I and II
57. Trebin H-R, Fink W, Stark H 1991  
J. Phys. I France **1** 1451–68  
Electrostriction in quasicrystals and in the icosahedral Blue Phases
58. Hirning R, Funk W, Trebin H-R, Schmidt M, Schmiedel H 1991  
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Threshold behaviour and electro-optical properties of twisted nematic layers with weak anchoring in the tilt and twist angle
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Ion channeling in T-phase quasicrystals: An investigation by Rutherford backscattering and particle induced X-ray emission
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64. Longa L, Trebin H-R 1992  
Mol. Cryst. Liq. Cryst. **212** 115–124  
Theory of liquid crystalline phases in biaxial systems
65. Hoffmann S, Trebin H-R 1992  
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Rows in two-dimensional quasilattices
66. Trebin H-R, Mikulla R, Roth J 1993  
J. Non-Cryst. Sol. **153 & 154** 272–275  
Motion of dislocations in two-dimensional decagonal quasicrystals
67. Roth J, Stadler J, Schilling R, Trebin H-R 1993  
J. Non-Cryst. Sol. **153 & 154** 536–540  
Molecular dynamics studies of 3d quasicrystals
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Planes and rows in quasilattices
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Planes and rows in icosahedral quasilattices
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Liquid crystalline blue phase III and structures of broken icosahedral symmetry
72. Longa L, Trebin H-R 1993  
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Mistakes in octagonal quasicrystals
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85. Roth J, Schilling R, Trebin H-R 1995  
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Nucleation of quasicrystals by rapid cooling of a binary melt: A molecular dynamics study
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Numerical simulations of dislocation motion and crack propagation in quasicrystals
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IMD – A massively parallel molecular dynamics package for classical simulations in condensed matter physics

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Brownian Motion and Edgawa Phasons

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Hans-Rainer Trebin