A list of publications by Hideo Aoki

October 2024

[**Refereed journals**]

[**2024**]

1. V. Valmispild, E. Gorelov, M. Eckstein, A. Lichtenstein, H. Aoki, M. Katsnelson, M. Ivanov and O. Smirnova: Sub-cycle multidimensional spectroscopy of strongly correlated materials,

   Nature Photonics **18**, 432 (2024).

2. Hiroyuki Tajima, Hideo Aoki, Andrea Perali, Antonio Bianconi: Emergent Fano-Feshbach resonance in two-band superconductors with an incipient quasi-flat band: Enhanced critical temperature evading particle-hole fluctuations,

   Phys. Rev. B Letter **109**, L140504 (2024).

[**2023**]

3. Sharareh Sayyad, Motoharu Kitatani, Abolhassan Vaezi, and Hideo Aoki: Nematicity-enhanced superconductivity in systems with a non-Fermi liquid behavior,

   Journal of Physics: Condensed Matter **35**, 245605 (2023).

4. P. A. Maksym and H. Aoki: Exact continuum theory of anti-Klein tunneling in bilayer graphene,

   arXiv:2306.10235.

[**2022**]

5. Sota Kitamura and Hideo Aoki: Floquet topological $d + id$ superconductivity induced by chiral many-body interactions,

   Communications Physics **5**, 174 (2022).

6. Kazunari Ochi, Hiroyuki Tajima, Kei Iida, and Hideo Aoki: Resonant pair-exchange scattering and BCS-BEC crossover in a system composed of dispersive and heavy incipient bands: a Feshbach analogy,

   Phys. Rev. Research **4**, 013032 (2022).

7. Changming Yue, Hideo Aoki and Philipp Werner: Superconductivity enhanced by pair fluctuations between wide and narrow bands,

   Phys. Rev. B **106**, L180506 (2022).

[**2021**]

8. Tohru Kawarabayashi, Yuya Inoue, Ryo Itagaki, Yasuhiro Hatsugai and Hideo Aoki: Robust zero modes in disordered two-dimensional honeycomb lattice with Kekulé bond ordering,

   Annals of Physics **435**, 168440 (2021).

9. P. A. Maksym and H. Aoki: Complete spin and valley polarization by total external reflection from potential barriers in bilayer graphene and monolayer transition metal dichalcogenides,

   Phys. Rev. B **104**, 155401 (2021).

[**2020**]

10. Hwanmun Kim, Hossein Dehghani, Hideo Aoki, Ivar Martin, and Mohammad Hafezi: Optical imprinting of superlattices in 2D materials,

    Phys. Rev. Research **2**, 043004 (2020).

11. Hirofumi Sakakibara, Hidetomo Usui, Katsuhiro Suzuki, Takao Kotani, Hideo Aoki, and Kazuhiko Kuroki: Model construction and a possibility of cuprate-like pairing in a new d^9 nickelate superconductor (Nd,Sr)NiO_2,

    Phys. Rev. Lett. **125**, 077003 (2020) (Editors' suggestion).

12. Hideo Aoki: Theoretical possibilities for flat-band superconductivity,

    Journal of Superconductivity and Novel Magnetism **33**, 2341 (2020).

13. Sharareh Sayyad, Edwin W. Huang, Motoharu Kitatani, Mohammad-Sadegh Vaezi, Zohar Nussinov, Abolhassan Vaezi and Hideo Aoki: Pairing and non-Fermi liquid behavior in partially flat-band systems,

Phys. Rev. B **101**, 014501 (2020).

14. Kimihiro Yamazaki, Masayuki Ochi, Daisuke Ogura, Kazuhiko Kuroki, Hiroshi Eisaki, Shinichi Uchida, and Hideo Aoki: Superconducting mechanism for a new-type cuprate $Ba_2CuO_{3+\delta}$ based on a multiorbital Lieb lattice model,

    Phys. Rev. Research **2**, 033356 (2020).

[2019]

15. Motoharu Kitatani, Thomas Schäfer, Hideo Aoki and Karsten Held: Why T_c is so low in high-T_c cuprates: importance of the dynamical vertex structure,

    Phys. Rev. B **99**, 041115(R) (2019).

16. Sharareh Sayyad, Naoto Tsuji, Abolhassan Vaezi, Massimo Capone, Martin Eckstein and Hideo Aoki: Momentum-dependent relaxation dynamics of the doped repulsive Hubbard model,

    Phys. Rev. B **99**, 165132 (2019).

17. Sharareh Sayyad, Naoto Tsuji, Massimo Capone and Hideo Aoki: SO(4) FLEX+DMFT formalism with SU(2)⊗SU(2)-symmetric impurity solver for superconductivity in the repulsive Hubbard model,

    arXiv:1903.05800.

18. P.A. Maksym and H. Aoki: Fast split operator method for computation of time-dependent quantum states of bilayer graphene in a magnetic field,

    Physica E **112**, 66 (2019).

19. Tohru Kawarabayashi, Hideo Aoki and Yasuhiro Hatsugai: Topologically protected doubling of tilted Dirac fermions in two dimensions,

    Proc. 34th Int. Conf. on Physics of Semiconductors, Montpellier, France, July 2018 [*Phys. Status Solidi B*, 2019, 1800524 (2019) DOI: 10.1002/pssb.201800524].

[2018]

20. Kota Katsumi, Naoto Tsuji, Yuki I. Hamada, Ryusuke Matsunaga, John Schneeloch, Ruidan D. Zhong, Genda D. Gu, Hideo Aoki, Yann Gallais, Ryo Shimano: Higgs mode in the d-wave superconductor $Bi_2Sr_2CaCu_2O_{8+x}$ driven by an intense terahertz pulse,

    Phys. Rev. Lett. **120**, 117001 (2018) (Editor's suggestion).

21. Kazutaka Nishiguchi, Shingo Teranishi, Koichi Kusakabe and Hideo Aoki: Superconductivity arising from layer-differentiation in multi-layer cuprates,

    Phys. Rev. B **98**, 174508 (2018).

22. Yoshikazu Ito, Yoichi Tanabe, Katsuaki Sugawara, Mikito Koshino, Takashi Takahashi, Katsumi Tanigaki, Hideo Aoki, and Mingwei Chen: Three-dimensional porous graphene networks expand graphene-based electronic device applications,

    Phys. Chem. Chem. Phys. **20**, 6024 (2018).

[**2017**]

23. Motoharu Kitatani, Naoto Tsuji and Hideo Aoki: Interplay of Pomeranchuk instability and superconductivity in the two-dimensional repulsive Hubbard model,

    Phys. Rev. B **95**, 075109 (2017).

24. Yuta Murotani, Naoto Tsuji and Hideo Aoki: Theory of light-induced resonances with collective Higgs and Leggett modes in multiband superconductors,

    Phys. Rev. B **95**, 104503 (2017).

25. Ryusuke Matsunaga, Naoto Tsuji, Kazumasa Makise, Hirotaka Terai, Hideo Aoki, and Ryo Shimano: Polarization-resolved terahertz third-harmonic generation in a superconductor NbN: dominance of Higgs mode beyond the BCS approximation,

    Phys. Rev. B **96**, 020505(R) (2017).

26. Sota Kitamura, Takashi Oka and Hideo Aoki: Probing and controlling spin chirality in Mott insulators by circularly polarized laser,

    Phys. Rev. B **96**, 014406 (2017).

27. Daisuke Ogura, Hideo Aoki and Kazuhiko Kuroki: Possible high-T_c superconductivity due to incipient narrow bands originating from hidden ladders in Ruddlesden-Popper compounds,

    Phys. Rev. B **96**, 184513 (2017).

28. Tatsuhiro Misumi and Hideo Aoki: A new class of flat-band models on tetragonal and hexagonal lattices: gapped vs crossing flat bands,

    Phys. Rev. B **96**, 155137 (2017) (Editor's suggestion).

[**2016**]

29. Masahiko G. Yamada, Tomohiro Soejima, Naoto Tsuji, Daisuke Hirai, Mircea Dinca and Hideo Aoki: First-principles design of a half-filled flat band of the Kagome lattice in two-dimensional metal-organic frameworks,

    Phys. Rev. B **94**, 081102(R) (2016).

30. Mikito Koshino and Hideo Aoki: Dirac electrons on three-dimensional graphitic zeolites — a scalable mass gap,

    Phys. Rev. B **93**, 041412(R) (2016).

31. Yuta Murakami, Philipp Werner, Naoto Tsuji and Hideo Aoki: Multiple amplitude modes in strongly-coupled phonon-mediated superconductors,

    Phys. Rev. B **93**, 094509 (2016).

32. Takahiro Mikami, Sota Kitamura, Kenji Yasuda, Naoto Tsuji, Takashi Oka and Hideo Aoki: Brillouin-Wigner theory for high-frequency expansion in periodically driven systems — Application to Floquet topological insulators,

    Phys. Rev. B **93**, 144307 (2016) [erratum: *Phys. Rev. B* **99** 019902 (2019)].

33. Y. Murakami, P. Werner, N. Tsuji and H. Aoki: Damping of the collective amplitude mode in superconductors with strong electron-phonon coupling,

    Phys. Rev. B **94**, 115126 (2016).

34. Naoto Tsuji, Yuta Murakami and Hideo Aoki: Nonlinear light-Higgs coupling in superconductors beyond BCS: Effects of the retarded phonon-mediated interaction,

    Phys. Rev. B **94**, 224519 (2016).

35. Keita Kobayashi, Masahiko Okumura, Susumu Yamada, Masahiko Machida, and Hideo Aoki: Superconductivity in repulsively interacting fermions on a diamond chain — flat-band induced pairing,

    Phys. Rev. B **94**, 214501 (2016).

36. Tohru Kawarabayashi, Hideo Aoki and Yasuhiro Hatsugai: Lattice realization of the generalized chiral symmetry in two dimensions,

    Phys. Rev. B **94**, 235307 (2016).

37. Yoichi Tanabe, Yoshikazu Ito, Katsuaki Sugawara, Daisuke Hojo, Mikito Koshino, Takeshi Fujita, Tsutomu Aida, Xiandong Xu, Khuong Kim Huynh, Hidekazu Shimotani, Tadafumi Adschiri, Takashi Takahashi, Katsumi Tanigaki, Hideo Aoki, and Mingwei Chen: Electric properties of Dirac fermions captured into 3D nanoporous graphene networks,

    Advanced Materials **28**, 10304 (2016).

38. Sota Kitamura and Hideo Aoki: η-pairing superfluid in periodically-driven fermionic Hubbard model with strong attraction,

Phys. Rev. B **94**, 174503 (2016).

[**2015**]

39. Yuta Murakami, Philipp Werner, Naoto Tsuji and Hideo Aoki: Interaction quench in the Holstein model: Thermalization crossover from electron- to phonon-dominated relaxation,

Phys. Rev. B **91**, 045128 (2015).

40. Yasuhiro Hatsugai, Tohru Kawarabayashi and Hideo Aoki: Survival of sharp $n = 0$ Landau levels in massive tilted Dirac fermions — Role of the generalized chiral operator,

Phys. Rev. B **91**, 085112 (2015).

41. Y. Hatsugai, K. Shiraishi and H. Aoki: Flat bands in Weaire-Thorpe model and silicene,

New J. Phys. **17**, 025009 (2015).

42. Sota Kitamura, Naoto Tsuji and Hideo Aoki: An interaction-driven topological insulator in fermionic cold atoms on an optical lattice — A design with a density functional formalism,

Phys. Rev. Lett. **115**, 045304 (2015).

43. Motoharu Kitatani, Naoto Tsuji and Hideo Aoki: FLEX+DMFT approach to the d-wave superconducting phase diagram of the two-dimensional Hubbard model,

Phys. Rev. B **92**, 085104 (2015).

44. Naoto Tsuji and Hideo Aoki: Theory of Anderson pseudospin resonance with Higgs mode in a superconductor,

Phys. Rev. B **92**, 064508 (2015).

45. Masataka Watanabe, Hisato Komatsu, Naoto Tsuji and Hideo Aoki: Electronic structure of helicoidal graphene — massless Dirac particles on a curved surface with a screw symmetry,

Phys. Rev. B **92**, 205425 (2015).

46. A. V. Stier, C. T. Ellis, J. Kwon, H. Xing, H. Zhang, D. Eason, G. Strasser, T. Morimoto, H. Aoki, H. Zeng, B. D. McCombe, and J. Cerne: Terahertz dynamics of a topologically protected state: Quantum Hall effect plateaus near the cyclotron resonance of a two-dimensional electron gas,

Phys. Rev. Lett. **115**, 247401 (2015).

[**2014**]

47. Shintaro Takayoshi, Hideo Aoki and Takashi Oka: Many-body Floquet theory of laser-induced phase transition in quantum magnets,

Phys. Rev. B **90**, 085150 (2014).

48. Yuta Murakami, Philipp Werner, Naoto Tsuji and Hideo Aoki: Supersolid phase accompanied by a quantum critical point in the intermediate coupling regime of the Holstein model,

Phys. Rev. Lett. **113**, 266404 (2014).

49. Hideo Aoki and Yasuhiro Hatsugai: Polarization as a topological quantum number in graphene,

Phys. Rev. B **90**, 045206 (2014).

50. Naoto Tsuji, Peter Barmettler, Hideo Aoki and Philipp Werner: Nonequilibrium dynamical cluster theory,

Phys. Rev. B **90**, 075117 (2014).

51. Hirofumi Sakakibara, Katsuhiro Suzuki, Hidetomo Usui, Satoaki Miyao, Isao Maruyama, Koichi Kusakabe, Ryotaro Arita, Hideo Aoki, and Kazuhiko Kuroki: Orbital mixture effect on the Fermi surface-Tc correlation in the cuprate superconductors — bilayer vs single layer,

Phys. Rev. B **89**, 224505 (2014).

52. Ryusuke Matsunaga, Naoto Tsuji, Hiroyuki Fujita, Arata Sugioka, Kazumasa Makise, Yoshinori Uzawa, Hirotaka Terai, Zhen Wang, Hideo Aoki, and Ryo Shimano: Light-induced collective pseudospin precession resonating with Higgs mode in a superconductor,

Science **345**, 1145 (2014).

[**2013**]

53. R. Shimano, G. Yumoto, J. Y. Yoo, R. Matsunaga, S. Tanabe, H. Hibino, T. Morimoto and H. Aoki: Quantum Faraday and Kerr rotations in graphene,

Nature Commun. **4**, 1841 (2013).

54. Yuta Murakami, Takashi Oka and Hideo Aoki: Supersolid states in a spin system — phase diagram and collective excitations,

Phys. Rev. B **88**, 224404 (2013).

55. Y. Hatsugai, T. Morimoto, T. Kawarabayashi, Y. Hamamoto and H. Aoki: Chiral symmetry and its manifestation in optical responses in graphene: interaction and multi-layers,

an invited article in *New J. Phys.* **15**, 035023 (2013).

56. Yuta Murakami, Philipp Werner, Naoto Tsuji and Hideo Aoki: Ordered phases in the Holstein-Hubbard model: Interplay of strong Coulomb interaction and electron-phonon coupling,

Phys. Rev. B **88**, 125126 (2013).

57. Yuji Hamamoto, Tohru Kawarabayashi, Hideo Aoki and Yasuhiro Hatsugai: Spin-resoloved chiral condensate as a spin-unpolarized $\nu = 0$ quantum Hall state in graphene,

Phys. Rev. B **88**, 195141 (2013).

58. Shintaro Takayoshi, Hosho Katsura, Noriaki Watanabe and Hideo Aoki: Phase diagram and pair Tomonaga-Luttinger liquid in a Bose-Hubbard model with flat bands,

Phys. Rev. A **88**, 063613 (2013).

59. P.A. Maksym and H. Aoki: Magnetic field controlled vacuum charge in graphene quantum dots with a mass gap,

Phys. Rev. B **88**, 081406(R) (2013).

60. Kazutaka Nishiguchi, Kazuhiko Kuroki, Ryotaro Arita, Takashi Oka and Hideo Aoki: Superconductivity assisted by inter-layer pair hopping in multi-layered cuprates,

Phys. Rev. B **88**, 014509 (2013).

[**2012**]

61. Sudhakar Pandey, Hiroshi Kontani, Dai S. Hirashima, Ryotaro Arita and Hideo Aoki: Spin Hall effect in iron-based superconducting materials — An effect of Dirac point,

Phys. Rev. B **86**, 060507(R) (2012).

62. Naoto Tsuji, Takashi Oka, Hideo Aoki and Philipp Werner: Repulsion-to-attraction transition in correlated electron systems triggered by a mono-cycle pulse,

Phys. Rev. B **85**, 155124 (2012).

63. Tohru Kawarabayashi, Yasuhiro Hatsugai and Hideo Aoki: Topologically protected Landau levels in bilayer graphene in finite electric fields,

Phys. Rev. B **85**, 165410 (2012).

64. H. Sakakibara, H. Usui, K. Kuroki, R. Arita and H. Aoki: Origin of the material dependence of T_c in the single-layered cuprates,

Phys. Rev. B **85**, 064501 (2012) (Editor's Suggestion).

65. Qian Xin, Steffen Duhm, Fabio Bussolotti, Kouki Akaike, Yoshihiro Kubozono, Hideo Aoki, Taichi Kosugi, Satoshi Kera and Nobuo Ueno: Accessing the surface Brillouin zone and the band structure of picene single crystals,

Phys. Rev. Lett. **108**, 226401 (2012).

66. D. Maryenko, J. Falson, Y. Kozuka, A. Tsukazaki, M. Onoda, H. Aoki and M. Kawasaki: Temperature dependent magnetotransport around $\nu = 1/2$ in ZnO heterostructures,

    Phys. Rev. Lett. **108**, 186803 (2012).

67. Hirofumi Sakakibara, Katsuhiro Suzuki, Hidetomo Usui, Kazuhiko Kuroki, Ryotaro Arita, Douglas J. Scalapino and Hideo Aoki: Multiorbital analysis of the effects of uniaxial and hydrostatic pressure on T_C in the single-layered cuprate superconductors,

    Phys. Rev. B **86**, 134520 (2012).

68. Takahiro Morimoto, Mikito Koshino and Hideo Aoki: Faraday rotation in bilayer and trilayer graphene in the quantum Hall regime,

    Phys. Rev. B **86**, 155426 (2012).

69. Takashi Koretsune, Ryotaro Arita and Hideo Aoki: Magneto-orbital effect without spin-orbit interactions — noncentrosymmetric zeolite-templated carbon structure,

    Phys. Rev. B **86**, 125207 (2012).

70. Yuji Hamamoto, Hideo Aoki and Yasuhiro Hatsugai: Chiral condensate with topological degeneracy in graphene and its manifestation in edge states,

    Phys. Rev. B **86**, 205424 (2012).

71. Takashi Kambe, Xuexia He, Yosuke Takahashi, Yusuke Yamanari, Kazuya Teranishi, Hiroki Mitamura, Seizi Shibasaki, Keitaro Tomita, Ritsuko Eguchi, Hidenori Goto, Yasuhiro Takabayashi, Takashi Kato, Akihiko Fujiwara, Toshikaze Kariyado, Hideo Aoki and Yoshihiro Kubozono: Synthesis and physical properties of metal-doped picene solids,

    Phys. Rev. B **86**, 214507 (2012) (Editors' Suggestion).

[**2011**]

72. M. Okumura, S. Yamada, M. Machida and H. Aoki: Phase-separated ferromagnetism in spin-imbalanced Fermi atoms loaded on an optical ladder: a DMRG study,

    Phys. Rev. A **83**, 031606(R) (2011).

73. Yukihiro Ota, Masahiko Machida, Tomio Koyama and Hideo Aoki: Leggett's collective modes in multiband superfluids and superconductors — Multiple dynamical classes,

    Phys. Rev. B **83**, 060507(R) (2011).

74. Naoto Tsuji, Takashi Oka, Philipp Werner and Hideo Aoki: Changing the interaction of lattice fermions dynamically from repulsive to attractive in ac fields,

    Phys. Rev. Lett. **106**, 236401 (2011). (Editors' Suggestion; Viewpoint)

75. Tohru Kawarabayashi, Yasuhiro Hatsugai, Takahiro Morimoto and Hideo Aoki: Generalized chiral symmetry and stability of zero modes for tilted Dirac cones,

Phys. Rev. B **83**, 153414 (2011).

76. Yoshihiro Kubozono, Hiroki Mitamura, Xuesong Lee, Xexia He, Yusuke Yamanari, Yosuke Takahashi, Yumiko Kaji, Ritsuko Eguchi, Koki Akaike, Takashi Kambe, Hideki Okamoto, Akihiko Fujiwara, Takashi Kato, Taichi Kosugi, and Hideo Aoki: Metal-intercalated aromatic hydrocarbons — a new class of carbon-based superconductors,

Phys. Chem. Chem. Phys. **13**, 16476 (2011).

77. Taichi Kosugi, Takashi Miyake, Shoji Ishibashi, Ryotaro Arita and Hideo Aoki: Electronic structure of solid coronene: differences and commonalities to picene,

Phys. Rev. B **84**, 020507(R) (2011) (Editors' Suggestion).

78. Takahiro Morimoto and Hideo Aoki: Two parameter flow of $\sigma_{xx}(\omega) - \sigma_{xy}(\omega)$ for the graphene quantum Hall system in ac regime,

Phys. Rev. B **85**, 165445 (2012).

79. Taichi Kosugi, Takashi Miyake, Shoji Ishibashi, Ryotaro Arita and Hideo Aoki: First-principles structural optimization and electronic structure of picene superconductor for various potassium-doping levels,

Phys. Rev. B **84**, 214506 (2011).

[**2010**]

80. Y. Ikebe, T. Morimoto, R. Masutomi, T. Okamoto, H. Aoki and R. Shimano: Optical Hall effect in the integer quantum Hall regime,

Phys. Rev. Lett. **104**, 256802 (2010).

81. Hirofumi Sakakibara, Hidetomo Usui, Kazuhiko Kuroki, Ryotaro Arita and Hideo Aoki: Two orbital model explains why the single-layer Hg cuprate have higher superconducting transition temperature than the La cuprate,

Phys. Rev. Lett. **105**, 057003 (2010).

82. Takashi Oka and Hideo Aoki: Dielectric breakdown in a Mott Insulator: many-body Schwinger-Landau-Zener mechanism studied with a generalized Bethe ansatz,

Phys. Rev. B **81**, 033103 (2010).

83. Shimpei Endo, Takashi Oka and Hideo Aoki: Realization of tight-binding photonic bands in metallophotonic waveguide networks with application to a flat band in kagome lattice,

Phys. Rev. B **81**, 113104 (2010).

84. Takahiro Morimoto, Yshai Avishai and Hideo Aoki: Dynamical scaling analysis of the optical Hall conductivity in the quantum Hall regime,

Phys. Rev. B **82**, 081404(R) (2010).

85. Tohru Kawarabayashi, Takahiro Morimoto, Yasuhiro Hatsugai and Hideo Aoki: Anomalous criticality in the quantum Hall transition at $n = 0$ Landau level of graphene with chiral-symmetric disorders,

Phys. Rev. B **82**, 195426 (2010).

86. Haruki Watanabe, Yasuhiro Hatsugai and Hideo Aoki: Half-integer contributions to the quantum Hall conductivity from single Dirac cones,

Phys. Rev. B **82**, 241403(R) (2010).

87. Takashi Oka, Hideo Aoki: Nonequilibrium magnetic and superconducting phases in the two-dimensional Hubbard model coupled to electrodes,

Phys. Rev. B **82**, 064516 (2010).

88. Yuji Suwa, Ryotaro Arita, Kazuhiko Kuroki and Hideo Aoki: First-principles study of ferromagnetism for an organic polymer dimethylaminopyrrole — a realization of organic periodic Anderson model,

Phys. Rev. B **82**, 235127 (2010).

[**2009**]

89. Taichi Kosugi, Takashi Miyake, Shoji Ishibashi, Ryotaro Arita and Hideo Aoki: First-principles electronic structure of solid picene,

J. Phys. Soc. Jpn **78**, 113704 (2009).

90. Kazuhiko Kuroki and Hideo Aoki: Unconventional pairing originating from disconnected Fermi surfaces in the iron-based superconductor,

Physica C **469**, 635 (2009).

91. Tohru Kawarabayashi, Yasuhiro Hatsugai and Hideo Aoki: Quantum Hall plateau transition in graphene with correlated random hopping,

Phys. Rev. Lett. **103**, 156804 (2009).

92. Takahiro Morimoto, Yasuhiro Hatsugai and Hideo Aoki: Optical Hall conductivity in ordinary and graphene QHE systems,

Phys. Rev. Lett. **103**, 116803 (2009).

93. Kazuhiko Kuroki, Hidetomo Usui, Seiichiro Onari, Ryotaro Arita and Hideo Aoki: Pnictogen height as a possible switch between high-T_c nodeless and low-T_c nodal pairings in the iron based superconductors,

    Phys. Rev. B **79**, 224511 (2009) (Editors' Suggestion; Featured in *Physics*).

94. Naoto Tsuji, Takashi Oka, and Hideo Aoki: Nonequilibrium steady state in photoexcited correlated electrons with dissipation,

    Phys. Rev. Lett. **103**, 047403 (2009).

95. P.A. Maksym, Y. Nishi, D.G. Austing, T. Hatano, L.P. Kouwenhoven, H. Aoki and S. Tarucha: Accurate model of a vertical pillar quantum dot,

    Phys. Rev. B **79**, 115314 (2009).

96. Takashi Oka and Hideo Aoki: Photovoltaic Hall effect in graphene,

    Phys. Rev. B **79**, 081406(R) (2009) [erratum: Phys. Rev. B **79**, 169901(E) (2009)].

[**2008**]

97. Kazuhiko Kuroki, Seiichiro Onari, Ryotaro Arita, Hidetomo Usui, Yukio Tanaka, Hiroshi Kontani and Hideo Aoki: Unconventional superconductivity originating from disconnected Fermi surfaces in $LaO_{1-x}F_xFeAs$,

    Phys. Rev. Lett. **101**, 087004 (2008) [erratum: Phys. Rev. Lett. **102**, 109902(E) (2009)].

98. Takahiro Morimoto, Yasuhiro Hatsugai and Hideo Aoki: Cyclotron radiation and emission in graphene,

    Phys. Rev. B **78**, 073406 (2008).

99. Mitsuhiro Arikawa, Yasuhiro Hatsugai and Hideo Aoki: Edge states in graphene in magnetic fields — a speciality of the edge mode embedded in the $n = 0$ Landau band,

    Phys. Rev. B **78**, 205401 (2008).

100. Walid Malaeb, Teppei Yoshida, Takashi Kataoka, Atsushi Fujimori, Masato Kubota, Kanta Ono, Hidetomo Usui, Kazuhiko Kuroki, Ryotaro Arita, Hideo Aoki, Yoichi Kamihara, Masahiro Hirano, and Hideo Hosono: Electronic structure and electron correlation in $LaFeAsO_{1-x}F_x$ and $LaFePO_{1-x}F_x$,

    J. Phys. Soc. Japan **77**, 093714 (2008).

101. Naoto Tsuji, Takashi Oka, and Hideo Aoki: Correlated electron systems periodically driven out of equilibrium — Floquet + DMFT formalism,

    Phys. Rev. B **78**, 235124 (2008).

102. Takashi Oka and Hideo Aoki: Photo-induced Tomonaga-Luttinger-like liquid in a Mott insulator,

Phys. Rev. B **78**, 241104(R) (2008).

103. Kazuhiko Kuroki, Seiichiro Onari, Ryotaro Arita, Hidetomo Usui, Yukio Tanaka, Hiroshi Kontani and Hideo Aoki: Unconventional pairing originating from disconnected Fermi surfaces in the iron-based superconductor,

New J. Phys. **11**, 025017 (2009).

[**2007**]

104. Naoto Tsuji, Shigehiro Takajo and Hideo Aoki: Large orbital magnetic moments in carbon nanotubes generated by resonant transport,

Phys. Rev. B **75**, 153406 (2007).

105. Masaki Tezuka, Ryotaro Arita and Hideo Aoki: Phase diagram for the half-filled one-dimensional Hubbard-Holstein model,

Phys. Rev. B **76**, 155114 (2007).

106. Shiro Sakai, Ryotaro Arita and Hideo Aoki: Itinerant ferromagnetism in the multiorbital Hubbard model — a dynamical mean-field study,

Phys. Rev. Lett. **99**, 216402 (2007).

[**2006**]

107. Seiichiro Onari, Ryotaro Arita, Kazuhiko Kuroki and Hideo Aoki: Superconductivity from a long-range interaction: A crossover between the electron gas and the lattice model,

Phys. Rev. B **73**, 014526 (2006).

108. Y. Nishi, P. A. Maksym, D. G. Austin, T. Hatano, L. P. Kouwenhoven, H. Aoki and S. Tarucha: Intermediate low spin states in a few-electron quantum dot in the $\nu \leq 1$ regime,

Phys. Rev. B **74**, 033306 (2006).

109. Hosho Katsura and Hideo Aoki: Exact supersymmetry in the relativistic hydrogen atom in general dimensions — supercharge and the generalized Johnson-Lippmann operator,

J. Math. Phys. **47**, 032301 (2006).

110. Shiro Sakai, Ryotaro Arita, Karsten Held and Hideo Aoki: Quantum Monte Carlo study for multiorbital systems with preserved spin and orbital rotational symmetries,

Phys. Rev. B **74**, 155102 (2006).

111. Yasuhiro Hatsugai, Takahiro Fukui and Hideo Aoki: Topological analysis of the quantum Hall effect in graphene: Dirac-Fermi transition across van Hove singularities and the edge vs bulk quantum numbers,

Phys. Rev. B **74**, 205414 (2006).

[**2005**]

112. Takashi Oka, Norio Konno, Ryotaro Arita and Hideo Aoki: Breakdown of an electric-field driven system — a mapping to a quantum walk,

Phys. Rev. Lett. **94**, 100602 (2005).

113. Manabu Kiguchi, Ryotaro Arita, Genki Yoshikawa, Yoshiaki Tanida, Susumu Ikeda, Shiro Entani, Ikuyo Nakai, Hiroshi Kondoh, Toshiaki Ohta, Koichiro Saiki, and Hideo Aoki: Metal-induced gap states in epitaxial organic-insulator/metal interfaces,

Phys. Rev. B **72**, 075446 (2005).

114. M. Koshino and H. Aoki: Electronic structure of an electron on the gyroid surface, a helical labyrinth,

Phys. Rev. B **71**, 73405 (2005).

115. Takashi Oka and Hideo Aoki: Ground-state decay rate for the Zener breakdown in band and Mott insulators,

Phys. Rev. Lett. **95**, 137601 (2005).

116. Seiichiro Onari, Ryotaro Arita, Kazuhiko Kuroki and Hideo Aoki: The spin-triplet superconductivity induced by the charge fluctuation in extended Hubbard model,

J. Phys. Soc. Jpn **74**, 2579-2585 (2005).

117. Masaki Tezuka, Ryotaro Arita and Hideo Aoki: Density-matrix renormalization group study of pairing when electron-electron and electron-phonon interactions coexist — an effect of the electronic band structure,

Phys. Rev. Lett. **95**, 226401 (2005).

[**2004**]

118. Ryotaro Arita, Kazuhiko Kuroki, and Hideo Aoki: Magnetic-field induced triplet superconductivity in the Hubbard model on a triangular lattice,

J. Phys. Soc. Jpn **73**, 533 (2004).

119. Ryotaro Arita, Takashi Miyake, Takao Kotani, Mark van Schilfgaarde, Takashi Oka, Kazuhiko Kuroki, Yasuo Nozue and Hideo Aoki: Electronic properties of alkali-metal loaded zeolites — a "supercrystal" Mott insulator,

Phys. Rev. B **69**, 195106 (2004).

120. Takashi Kimura, Kazuhiko Kuroki, Ryotaro Arita and Hideo Aoki: Possibility of superconductivity in the repulsive Hubbard model on the Shastry-Sutherland lattice,

Phys. Rev. B **69**, 054501 (2004).

121. Mikito Koshino and Hideo Aoki: Integer quantum Hall effect and Hofstadter's butterfly spectra in three-dimensional metals in external periodic modulations,

Phys. Rev. B **69**, 081303(R) (2004).

122. Ryotaro Arita, Yoshiaki Tanida, Kazuhiko Kuroki, and Hideo Aoki: Electronic properties of metal induced gap states at insulator/metal interfaces — dependence on the alkali halide and the possibility of excitonic mechanism of superconductivity,

Phys. Rev. B **69**, 115424 (2004).

123. Ryotaro Arita, Seiichiro Onari, Kazuhiko Kuroki and Hideo Aoki: Off-site repulsion-induced triplet superconductivity: A possibility for chiral p_{x+y}-wave pairing in Sr_2RuO_4,

Phys. Rev. Lett. **92**, 247006 (2004).

124. Seiichiro Onari, Ryotaro Arita, Kazuhiko Kuroki and Hideo Aoki: Phase diagram of the two-dimensional extended Hubbard model — Quantum phase transitions between different pairing symmetries when charge and spin fluctuations coexist,

Phys. Rev. B **70**, 94523 (2004).

125. Ryotaro Arita, Yoshiaki Tanida, Shiro Entani, Manabu Kiguchi, Koichiro Saiki and Hideo Aoki: Polar surface engineering in ultra-thin MgO(111)/Ag(111) — possibility of metal-insulator transition and magnetism,

Phys. Rev. B **69**, 235423 (2004).

126. Susumu Okada, Ryotaro Arita, Atsushi Oshiyama, Yutaka Matsuo, Eiichi Nakamura and Hideo Aoki: Electronic Structure of Stacked C_{60} Shuttlecocks,

Chem. Phys. Lett. **399**, 157 (2004).

127. Shiro Sakai, Ryotaro Arita, and Hideo Aoki: Numerical algorithm for the double-orbital Hubbard model — Hund-coupled pairing symmetry in the doped case,

Phys. Rev. B **70**, 172504 (2004).

[**2003**]

128. M. Koshino and H. Aoki: Integer quantum Hall effect in isotropic 3D crystals,

Phys. Rev. B **67**, 195336 (2003).

129. Manabu Kiguchi, Ryotaro Arita, Genki Yoshikawa, Yoshiaki Tanida, Masao Katayama, Koichiro Saiki, Atsushi Koma and Hideo Aoki: Metal-induced gap states at well defined alkali-halide/metal interfaces,

Phys. Rev. Lett. **90**, 196803 (2003).

130. S. Onari, R. Arita, K. Kuroki and H. Aoki: Superconductivity in repulsive electron systems having three-dimensional disconnected Fermi surfaces,

Phys. Rev. B **68**, 024525 (2003).

131. Takashi Oka, Ryotaro Arita and Hideo Aoki: Breakdown of a Mott insulator — non-adiabatic tunneling mechanism,

Phys. Rev. Lett. **91**, 066406 (2003).

132. Ryotaro Arita, Yuji Suwa, Kazuhiko Kuroki and Hideo Aoki: Flat-band ferromagnetism in undoped and doped polyaminotriazole crystal,

Phys. Rev. B **68**, 140403(R) (2003).

133. Yuji Suwa, Ryotaro Arita, Kazuhiko Kuroki and Hideo Aoki: Flat-band ferromagnetism in organic polymers designed by a computer simulation,

Phys. Rev. B **68**, 174419 (2003).

[**2002**]

134. R. Arita, Y. Suwa, K. Kuroki and H. Aoki: Gate-induced band ferromagnetism in an organic polymer,

Phys. Rev. Lett. **88**, 127202 (2002).

135. M. Koshino, H. Aoki, T. Osada, K. Kuroki and S. Kagoshima: Phase diagram for the Hofstadter butterfly and integer quantum Hall effect in three dimensions,

Phys. Rev. B **65**, 045310 (2002).

136. S. Onari, K. Kuroki, R. Arita and H. Aoki: Superconductivity induced by interband nesting in the three-dimensional honeycomb lattice,

Phys. Rev. B **65**, 184525 (2002).

137. M. Koshino, H. Aoki and T. Osada: Field-induced SDW and butterfly spectrum in three dimensions,

Phys. Rev. B **65**, 205311 (2002).

138. Y. Tanuma, K. Kuroki, Y. Tanaka, R. Arita, S. Kashiwaya and H. Aoki: Tomography of pairing symmetry from magnetotunneling spectroscopy — a case study for quasi-1D organic superconductors,

Phys. Rev. B **66**, 094507 (2002).

139. Mikito Koshino, Hideo Aoki and Bertrand I. Halperin: Wrapping current versus bulk integer quantum Hall effect in three dimensions,

Phys. Rev. B **66**, 081301(R) (2002).

140. Takashi Kimura, Yuji Zenitani, Kazuhiko Kuroki, Ryotaro Arita and Hideo Aoki: Hybridization-induced superconductivity from the electron repulsion on a tetramer lattice having a disconnected Fermi surface,

Phys. Rev. B **66**, 212505 (2002).

[**2001**]

141. K. Kuroki, M. Ogata, R. Arita and H. Aoki: Crib-shaped triplet-pairing gap function for an orthogonal pair of quasi-one-dimensional Fermi surfaces in Sr_2RuO_4,

Phys. Rev. B **63**, 60506(R) (2001).

142. K. Kuroki, R. Arita and H. Aoki: Spin-triplet f-wave-like pairing proposed for an organic superconductor $(TMTSF)_2PF_6$,

Phys. Rev. B **63**, 94509 (2001).

143. M. Koshino, H. Aoki, K. Kuroki, S. Kagoshima and T. Osada: Hofstadter butterfly and integer quantum Hall effect in three dimensions,

Phys. Rev. Lett. **86**, 1062 (2001).

144. M. Onoda, T. Mizusaki and H. Aoki, Effective mass staircase and the Fermi liquid parameters for the fractional quantum Hall composite fermions,

Phys. Rev. B **64**, 235315 (2001).

145. H. Aoki, M. Koshino, H. Morise, D. Takeda and K. Kuroki: Electronic structure of periodic surfaces — 'topological band structure',

Phys. Rev. B **65**, 035102 (2001).

146. R. Arita, Y. Tanida, K. Kuroki and H. Aoki: Image-potential band-gap narrowing at a metal/semiconductor interface,

Phys. Rev. B **64**, 245112 (2001).

[**2000**]

147. R. Arita, K. Kuroki and H. Aoki: *d*- and *p*-wave superconductivity mediated by spin fluctuations in two- and three-dimensional single-band repulsive Hubbard model,
J. Phys. Soc. Japan **69**, 1181-1191 (2000).

148. R. Arita, S. Onoda, K. Kuroki and H. Aoki: Magnetic properties of the Hubbard model on three-dimensional lattices: fluctuation-exchange and two-particle self-consistent studies,
J. Phys. Soc. Japan **69**, 785-795 (2000).

149. R. Arita, K. Kuroki and H. Aoki: Electron-correlation-originated negative magnetoresistance in a system having a partly flat band,
Phys. Rev. B **61**, 3207-3210 (2000).

150. R. Arita and H. Aoki: Relationship between spiral and ferromagnetic states in the Hubbard model in the thermodynamic limit,
Phys. Rev. B **61** 12261-12270 (2000).

151. Masaru Onoda, Takahiro Mizusaki, Takaharu Otsuka and Hideo Aoki: Excitation spectrum and effective mass of the even-fraction quantum Hall liquid,
Phys. Rev. Lett. **84**, 3942-3945 (2000).

152. S. Muto and H. Aoki: Persistence of vibrational modes in a classical two-dimensional electron liquid,
J. Phys. Condensed Matter **12**, L83-L86 (2000).

[**1999**]

153. H. Imamura, P. A. Maksym and H. Aoki: Vertically coupled double quantum dots in magnetic fields,
Phys. Rev. B **59**, 5817-5825 (1999).

154. S. Muto and H. Aoki: Crystallization of a classical two-dimensional electron system — Positional and orientational orders,
Phys. Rev. B **59**, 14911-14914 (1999).

155. K. Kuroki and H. Aoki: Superconductivity and spin correlation in organic conductors: a quantum Monte Carlo study,

Phys. Rev. B **60**, 3060-3063 (1999).

156. K. Kuroki, R. Arita and H. Aoki: Link between the spin fluctuation and Fermi surface in high T_C cuprates — A consistent description within the single-band Hubbard model,

Phys. Rev. B **60**, 9850-9854 (1999).

157. R. Arita, K. Kuroki and H. Aoki: Spin-fluctuation exchange study of superconductivity in two- and three-dimensional single-band Hubbard model,

Phys. Rev. B **60**, 14585-14588 (1999).

[**1998**]

158. T. Kimura, K. Kuroki and H. Aoki: Pairing correlation in the three-leg Hubbard ladder — Renormalization group and quantum Monte Carlo studies,

J. Phys. Soc. Japan **67**, 1377-1390 (1998).

159. K. Kuroki and H. Aoki: A consistent description of the pairing symmetry in hole and electron doped cuprates within the two-dimensional Hubbard model,

J. Phys. Soc. Japan **67**, 1533-1536 (1998).

160. R. Arita, K. Kuroki, H. Aoki and M. Fabrizio: DMRG study of the spin gap in a one-dimensional Hubbard model — effect of the distant transfer and exchange coupling,

Phys. Rev. B **57**, 10324-10327 (1998).

161. R. Arita, Y. Shimoi, K. Kuroki and H. Aoki: Flat-band ferromagnetism induced by off-site repulsions,

Phys. Rev. B **57**, 10609-10612 (1998).

162. R. Arita, K. Kuroki, H. Aoki, A. Yajima, M. Tsukada, S. Watanabe, M. Ichimura, T. Onogi, T. Hashizume: Ferromagnetism in a Hubbard model for an atomic quantum wire: A realization of flat-band magnetism from even-membered rings,

Phys. Rev. B **57**, R6854-6857 (1998).

163. H. Imamura, H. Aoki and P. A. Maksym: Spin-blockade in single and double quantum dots in magnetic fields — a correlation effect,

Phys. Rev. B **57**, R4257-4260 (1998).

164. R. Arita, K. Kusakabe, K. Kuroki and H. Aoki: Spectral function of the spiral spin state in the trestle and ladder Hubbard model,

Phys. Rev. B **58**, R11833-11836 (1998).

[**1997**]

165. K. Kuroki, H. Aoki, T. Hotta and Y. Takada: Detection of pairing correlation in the two-dimensional Hubbard model,

Phys. Rev. B **55**, 2764-2767 (1997).

166. T. Kimura, K. Kuroki and H. Aoki: Superconductivity in the three-leg Hubbard ladder — a Quantum Monte Carlo study,

J. Phys. Soc. Japan **66**, 1599-1602 (1997).

167. R. Arita, K. Kusakabe, K. Kuroki and H. Aoki: Extended Aharonov-Bohm period analysis of strongly correlated electron systems,

J. Phys. Soc. Japan **66**, 2086-2096 (1997).

168. K. Kuroki, R. Arita and H. Aoki: Numerical study of a superconductor-insulator transition in a half-filled Hubbard chain with distant transfers,

J. Phys. Soc. Japan **66**, 3371-3374 (1997).

169. K. Kuroki and H. Aoki: Enhancement of the $d_{x^2-y^2}$ pairing correlation in the two-dimensional Hubbard model — a quantum Monte Carlo study,

Phys. Rev. B **56**, R14287-14290 (1997).

170. T. Nakajima and H. Aoki: Spin-squeezed ground states in the bilayer quantum Hall ferromagnet,

Phys. Rev. B **56**, R15549-15552 (1997).

[**1996**]

171. T. Kimura, K. Kuroki and H. Aoki: Generation of spin-polarized currents in Zeeman-split Tomonaga-Luttinger models,

Phys. Rev. B **53**, 9572-9575 (1996).

172. H. Imamura, P. A. Maksym and H. Aoki: Magic numbers and optical absorption spectrum in vertically coupled quantum dots in the fractional quantum Hall regime,

Phys. Rev. B **53**, 12 613-12 616 (1996).

173. T. Kimura, K. Kuroki and H. Aoki: Correlation functions in the three-chain Hubbard ladder,

Phys. Rev. B **54**, R9608-9611 (1996).

174. K. Kuroki, T. Kimura and H. Aoki: Quantum Monte Carlo study of the pairing correlation in the Hubbard ladder,

Phys. Rev. B **54**, R15641-15644 (1996).

175. T. Terao, T. Nakayama and H. Aoki: Multifractality of the quantum Hall wave functions in higher Landau levels,

Phys. Rev. B **54**, 10350-10353 (1996).

176. K. Kusakabe and H. Aoki: Detection of pairing from the extended Aharonov-Bohm period in strongly correlated electron systems,

J. Phys. Soc. Japan **65**, 2772-2775 (1996).

177. K. Kuroki and H. Aoki: Quantum Monte Carlo evidence for superconductivity in the three-band Hubbard model in two dimensions,

Phys. Rev. Lett. **76**, 4400-4403 (1996); [K. Kuroki and H. Aoki: Kuroki and Aoki reply, *Phys. Rev. Lett.* **78**, 161 (1997)].

178. H. Aoki, M. Ando and H. Matsumura: Hofstadter butterflies for flat bands,

Phys. Rev. B **54**, R17296-17299 (1996).

[**1995**]

179. T. Nakajima and H. Aoki, Manifestation of spin degrees of freedom in the double fractional quantum Hall system,

Phys. Rev. B **51**, 7874-7877 (1995).

180. T. Nakajima and H. Aoki, Composite-fermion picture for the double fractional quantum Hall system,

Phys. Rev. B **52**, 13780-13783 (1995).

181. T. Kimura, K. Kuroki and H. Aoki, Transport properties of coupled one-dimensional interacting electron systems with impurities,

Phys. Rev. B **51**, R13860-13863 (1995).

182. K. Ishida, H. Aoki and T. Ogawa: One-dimensional biexciton in a tight-binding model and its optical properties,

Phys. Rev. B **52**, 8980-8991 (1995).

[**1994**]

183. K. Kusakabe and H. Aoki: Ferromagnetic spin wave theory in the multiband Hubbard model having a flat band,

Phys. Rev. Lett. **72**, 144-147 (1994).

184. K. Kuroki and H. Aoki: Superconductivity in a repulsively interacting two-band Fermi gas,

Phys. Rev. Lett. **72**, 2947-2950 (1994).

185. K. Kuroki, K. Kusakabe and H. Aoki: Phase diagram of the extended attractive Hubbard model in one dimension,

Phys. Rev. B **50**, 575-578 (1994).

186. T. Kimura, K. Kuroki, H. Aoki and M. Eto: Conductivity of an interacting two-channel Tomonaga-Luttinger model,

Phys. Rev. B **49**, R16852-16855 (1994).

187. K. Kusakabe and H. Aoki: Scaling properties of the ferromagnetic states in the Hubbard model,

Phys. Rev. B **50**, 12991-12994 (1994).

188. K. Kusakabe and H. Aoki: Spin-twist driven persisten current in a strongly correlated two-dimensional electron system: a manifestation of the gauge field,

Phys. Rev. B **52**, R8684-8687 (1994).

189. T. Nakajima and H. Aoki, Composite-fermion picture for the spin-wave excitation in the fractional quantum Hall system,

Phys. Rev. Lett. **73**, 3568-3571 (1994).

[**1993**]

190. K. Ishida, T. Chikyu and H. Aoki: One-dimensional exciton in a two-band tight-binding model with long-range interactions,

Phys. Rev. B, **47**, 7594-7597 (1993).

191. K. Kuroki and H. Aoki: Superconductivity in metal-insulator composite bands: A realization of negative-U pairing in purely repulsive systems,

Phys. Rev. B **48**, 7598-7617 (1993).

192. N. Shima and H. Aoki: Electronic structure of super-honeycomb systems: a peculiar realization of semimetal/semiconductor classes and ferromagnetism,

Phys. Rev. Lett. **71**, 4389-4392 (1993).

[**1991-1992**]

193. K. Kusakabe and H. Aoki: Low-lying excitations in the half-filled and doped Hubbard model in one dimension,

Phys. Rev. B **44**, 7863-7869 (1991).

194. K. Kusakabe and H. Aoki: High-spin states in the Hubbard model: generalized Hund's coupling and a crossover to strong U regime,

J. Phys. Soc. Japan **61**, 1165-1168 (1992).

195. K. Kuroki, H. Aoki and Y. Takada: Superconductivity due to interband attraction: competition between diagonal and off- diagonal long-range orders,

J. Phys. Soc. Japan, **61**, 1161-1164 (1992).

196. H. Aoki and H. Suezawa: Landau quantization of electrons on a sphere,

Phys. Rev. A **46**, R1163-1166 (1992).

197. K. Kuroki and H. Aoki: Realization of negative-U superconductivity in a class of purely repulsive systems: interacting carrier and insulating bands,

Phys. Rev. Lett. **69**, 3820-3823 (1992).

[**1989-1990**]

198. S. Tsuneyuki, Y. Matsui, H. Aoki and M. Tsukada: New pressure-induced structural transformations in silica obtained by computer simulation,

Nature **339**, 209-211 (1989).

199. H. Aoki and S. Tsuneyuki: Silica polymorphs,

Nature **340**, 193 (1989).

200. S. Tsuneyuki, H. Aoki, M. Tsukada and Y. Matsui: Molecular- dynamics study of the α to β structural phase transition of quartz,

Phys. Rev. Lett. **64**, 776-779 (1990).

201. K. Kuroki and H. Aoki: Cooper pairing in a two-band Hubbard model: a quantum Monte Carlo study,

Solid State Commun. **73**, 563-567 (1990).

202. H. Aoki and K. Kuroki: Superconductivity in a two-band Hubbard model,

Phys. Rev. B **42**, 2125-2136 (1990).

203. H. Aoki: Quantum Hall effect in a self-similar system,

Phys. Rev. B **42**, 6869-6872 (1990).

[**1987-1988**]

204. H. Aoki and H. Kamimura: Jahn-Teller-effect mediated superconductivity in oxides,

Solid State Commun. **63**, 665-669 (1987).

205. C. Itoh, T. Miyazaki, K. Aizawa, H. Aoki and M. Okazaki, Monte Carlo study of lattice-mismatched epitaxy,

J. Phys. C: Solid State Phys. **21**, 4527-4544 (1988).

206. S. Tsuneyuki, M. Tsukada, H. Aoki and Y. Matsui: First-principles interatomic potential of silica applied to molecular dynamics,

Phys. Rev. Lett. **61**, 869-872 (1988).

[**1986**]

207. A. Shimizu, H. Aoki and H. Kamimura: Decimation study of the interplay of strong electron-electron interactions and disorder,

J. Phys. C: Solid State Phys. **19**, 725-738 (1986).

208. H. Aoki: Fractal dimensionality of wave functions at the mobility edge: quantum fractal in the Landau levels,

Phys. Rev. B **33**, 7310-7313 (1986).

209. H. Aoki: A novel Landau-level laser in the quantum Hall regime,

Appl. Phys. Lett. **48**, 559-560 (1986).

210. H. Aoki and T. Ando: Universality of quantum Hall effect: topological invariant and observable,

Phys. Rev. Lett. **57**, 3093-3096 (1986).

[**1985**]

211. H. Aoki: Electronic structure of disordered systems with multi-orbitals,
J. Phys. C: Solid State Phys. **18**, 2109-2118 (1985).

212. H. Aoki: Two-dimensional electrons in magnetic fields in a multiply-connected Aharonov-Bohm geometry,
J. Phys. C: Solid State Phys. **18**, 1885-1890 (1985).

213. H. Aoki: Two-dimensional localisation of electrons on a lattice in magnetic fields,
J. Phys. C: Solid State Phys. **18**, L67-71 (1985).

214. H. Aoki and T. Ando: Critical localization in two-dimensional Landau quantization,
Phys. Rev. Lett. **54**, 831-834 (1985).

215. T. Ando and H. Aoki: Finite-size scaling study of localization in Landau levels,
J. Phys. Soc. Japan **54**, 2238-2249 (1985).

216. H. Aoki: Aharonov-Bohm effect for the quantum Hall conduction on a disordered lattice,
Phys. Rev. Lett. **55**, 1136-1139 (1985).

[**1982-1984**]

217. H. Aoki: Gauge-transformation study of the quantised Hall effect,
J. Phys. C: Solid State Phys. **15**, L1227-1233 (1982).

218. H. Aoki: Gauge-transformation study of two-dimensional localisation in magnetic fields,
J. Phys. C: Solid State Phys. **16**, 1893-1900 (1983).

219. H. Aoki: Critical behaviour of extended states in disordered systems,
J. Phys. C: Solid State Phys. **16**, L205-208 (1983).

220. H. Aoki: Structure of the wavefunction in disordered systems in magnetic fields,
J. Phys. C: Solid State Phys. **17**, 1875-1883 (1984).

221. H. Aoki: Electronic structure of disordered systems with periodic lattice distortion,

J. Phys. C: Solid State Phys. **17**, 1885-1895 (1984).

[**1981**]

222. H. Aoki: Anderson localisation in anisotropic systems,

Solid State Commun. **37**, 677-680 (1981).

223. H. Aoki: Electronic structure of disordered intrinsic semiconductor and s-d systems: Two-band localisation,

J. Phys. C: Solid State Phys. **14**, 2771-2784 (1981).

224. H. Aoki and T. Ando: Effect of localization on the Hall conductivity in the two-dimensional system in strong magnetic fields,

Solid State Commun. **38**, 1079-1082 (1981).

(reprinted as *Solid State Commun.* **88**, 951-954 (1993) in a celebratory issue to commemorate 30 years of *Solid State Communications*).

[**1980**]

225. H. Aoki: Real-space renormalisation-group theory for Anderson localisation: Decimation method for electron systems,

J. Phys. C: Solid State Phys. **13**, 3369-3386 (1980).

226. C.R. Lee, H. Aoki and H. Kamimura: Lattice-gas theory of order-disorder transition in the first-stage graphite-alkali intercalation compounds,

J. Phys. Soc. Japan **49**, 870-877 (1980).

[**1979**]

227. H. Aoki: Effect of coexistence of random potential and electron-electron interaction in two-dimensional systems: Wigner glass,

J. Phys. C: Solid State Phys. **12**, 633-645 (1979).

228. E. Yamaguchi, H. Aoki and H. Kamimura: Intra- and inter-state interactions in Anderson-localised states,

J. Phys. C: Solid State Phys. **12**, 4801-4815 (1979).

229. H. Aoki: Real-space renormalisation approach to the Anderson localisation,
Solid State Commun. **31**, 999-1002 (1979).

[**1975-1978**]

230. H. Aoki: Transport properties of two-dimensional disordered electron systems in strong magnetic fields,
J. Phys. C: Solid State Phys. **11**, 3823-3834 (1978).

231. H. Aoki and H. Kamimura: Anderson localization in a two-dimensional electron system under strong magnetic fields,
Solid State Commun. **21**, 45-47 (1977).

232. H. Aoki: Computer simulation for two-dimensional disordered electron systems in strong magnetic fields,
J. Phys. C: Solid State Phys. **10**, 2583-2593 (1977).

233. H. Aoki and H. Kamimura: The Hubbard model for the structurally random systems,
J. Phys. Soc. Japan **40**, 6-12 (1976).

234. H. Aoki and H. Kamimura: Properties of the Hubbard model for the arbitrary numbers of up and down spin electrons,
J. Phys. Soc. Japan **39**, 1169-1174 (1975).

[**Review articles**]

235. Hideo Aoki and Hideo Hosono: A superconducting surprise comes of age,
Physics World, Feb. 2015, p.31.

236. Hideo Aoki, Naoto Tsuji, Martin Eckstein, Marcus Kollar, Takashi Oka and Philipp Werner: Nonequilibrium dynamical mean-field theory and its applications,
Rev. Mod. Phys. **86**, 779 (2014).

237. Hideo Aoki: Triplet superconductivity — spin vs charge fluctuations and fermiology,
Physica B **374-375**, 229-234 (2006).

238. Hideo Aoki: Superconductivity in frustrated systems,
a Viewpoint article in *J. Phys.: Condensed Matter*, **16**, V1 - V5 (2004).

239. Hideo Aoki: Superconductivity from the repulsive electron interaction — from 1D to 3D,

in *The Anderson Transition and its Ramifications — Localisation, Quantum Interference, and Interactions* (*Lecture Notes in Physics* **630**) ed. by Tobias Brandes et al. (Springer Verlag, 2003), pp. 219-243.

240. Hideo Aoki: Transport around criticalities — localisation-delocalisation and paramagnetic-ferromagnetic transitions, in Michael Pollak Festschrift (ed. by Allen Hunt),

Phil. Mag. **81**, 859-874 (2001).

241. Hideo Aoki: Opportunities in the diversity of crystal structures — a view from condensed-matter physics,

in *Physics Meets Mineralogy — Condensed-Matter Physics in Geosciences*, ed. by H. Aoki, Y. Syono and R. J. Hemley (Cambridge Univ. Press, 2000), pp.259-298.

242. H. Aoki, Y. Syono and R. J. Hemley: Physics and mineralogy — the current confluence,

in *Physics Meets Mineralogy — Condensed-Matter Physics in Geosciences*, ed. by H. Aoki, Y. Syono and R. J. Hemley (Cambridge Univ. Press, 2000), p. 3.

243. P. A. Maksym, H. Imamura, G. Mallon and H. Aoki: Molecular aspects of electron correlation in quantum dots,

J. Phys.: Condensed Matter **12**, R299-R334 (2000).

244. K. Kuroki and H. Aoki: Quantum Monte Carlo simulation of multiband fermion systems and its application to superconductivity

in *Quantum Monte Carlo Methods in Condensed Matter Physics* ed. by M. Suzuki (World Scientific, Singapore, 1993), pp.205-219.

245. H. Aoki: Two-band models of superconductivity,

in *New horizons in low-dimensional electron systems,* ed. by H. Aoki, M. Tsukada, M. Schlüter and F. Lévy (Kluwer Academic Publishers, Dordrecht, 1992), pp.261-280.

246. S. Tsuneyuki, H. Aoki and Y. Matsui: Pressure-induced structural transformations in framework crystal structures: a molecular dynamics study for silica,

Molecular Simulations **6**, 227-238 (1991).

247. S. Tsuneyuki, M. Tsukada, H. Aoki and Y. Matsui: Molecular- dynamics simulation of silica with a first-principles interatomic potential,

in *Dynamic Processes of Material Transport and Transformation in the Earth's Interior*, ed. by F. Marumo (Terra Scientific Publishing, Tokyo, 1990), pp.1-21.

248. H. Aoki: Quantised Hall effect,

Rep. Progr. Phys. **50**, 655-730 (1987).

[**Books**]

249. Hideo Aoki: *Physics of Superconductivity* (in Japanese) (Shokabo, 2024, in the press).

250. Hideo Aoki: Integer quantum Hall effect

in *Comprehensive Semiconductor Science & Technology*, 2nd Edition (Elsevier), to be published.

251. T. Chakraborty, Ana M. Sanchez, Hideo Aoki, Robert H. Blick, Roberto Raimondi, Rudolf A. Roemer, and Vladimir Mihajlovic Fomin (editors): *Encyclopedia of Condensed Matter Physics*, 2nd Ed. (Elsevier, 2023).

252. Hideo Aoki and Mildred S. Dresselhaus (ed.): *Physics of Graphene* (Springer, 2014).

253. Yasuhiro Hatsugai and Hideo Aoki: Graphene — topological properties, chiral symmetry and their manipulation,

in Hideo Aoki and Mildred S. Dresselhaus (ed.): *Physics of Graphene* (Springer, 2014), Ch.7, pp. 213-250.

254. Hideo Aoki: Integer quantum Hall effect

in P. Bhattacharya, R. Fornari and H. Kamimura (ed.): *Comprehensive Semiconductor Science & Technology*, Vol. 1: Physics and Fundamental Theory (Elsevier, 2011), pp.175-209.

255. Takashi Oka and Hideo Aoki: Nonequilibrium quantum breakdown in a strongly correlated electron system,

in A.K. Sen et al (eds.): *Quantum and Semi-classical Percolation and Breakdown in Disordered Solids* [*Lecture Notes in Physics* **762**], pp. 251-285 (Springer Verlag, 2009).

256. Hideo Aoki: Superconductivity in highly correlated systems,

in *Condensed Matter Theories* **21** ed. by Hisazumi Akai, Atsushi Hosaka, Hiroshi Toki and F. Bary Malik (Nova Science, 2007), pp.147-161.

257. G. Saito, S. Kagoshima, K. Kanoda, H. Aoki, T. Mori, Y. Misaki and H. Yamochi (editors): *Proc. 4th Int. Symposium on Crystalline Organic Metals, Superconductors and Ferromagnetism*, Hokkaido, 2001, *Synthetic Metals* **133-134** (2003).

258. G. Kido, T. Takamasu, H. Aoki and K. Takita (editors): *Proc. 14th Int. Conf. on High Magnetic Fields in Semiconductor Physics*, Matsue, 2000, *Physica B* **298** (2001).

259. H. Aoki: Composite fermions — excitation spectra in the odd- and even-fraction quantum Hall liquids

in *Dynamics of Gauge Fields* ed. by A. Chodos et al. (Universal Academy Press, 2000), pp. 371-384.

260. H. Aoki: Spin states and transport in correlated electron systems

in *Low-Dimensional Systems — Interactions and Quantum Transport Properties* ed. by T. Brandes (Springer Series 'Lecture Notes in Physics' **544**, Springer, 2000), p. 167.

261. Hideo Aoki, Yasuhiko Syono and Russell J. Hemley (editors): *Physics Meets Mineralogy — Condensed-Matter Physics in Geosciences*, Cambridge Univ. Press, 2000.

262. H. Aoki and S. Komiyama (editors): *Proc. 12th Int. Conf. on Electronic Properties of Two-Dimensional Systems*, *Physica* B **249-251** (1998).

263. H. Aoki, M. Tsukada, M. Schlüter and F. Lévy (editors): *New Horizons in Low-Dimensional Electron Systems* (in the series *Physics and Chemistry of Materials with Low-Dimensional Structures*), Kluwer Academic Publishers, Dordrecht, 1992.

264. H. Kamimura and H. Aoki: *Physics of Interacting Electrons in Disordered Systems* (International Series of Monographs on Physics 76), Oxford University Press, Oxford, 1989.

[Conference Proceedings — Invited talks]

[2000-]

265. Hideo Aoki and Toshikaze Kariyado: Pressure effects and orbital characters in cuprate and carbon-based superconductors,

Proc. Int. Conf. Superstripes, Ischia, May-June 2013 [*J. Superconductivity and Novel Magnetism* **27**, 995 (2014)].

266. Hideo Aoki: A perspective of superconductivity as multiband phenomena: Cuprate, iron and aromatic systems,

Proc. STRIPE2011, Rome, 2011 [*J. Superconductivity and Novel Magnetism* **25**, 1243 (2012)].

267. Hideo Aoki: Unconventional superconductivity originating from disconnected Fermi surfaces in the iron-based compound,

Proc. μSR2008, Tsukuba, 2008 [*Physica B* **404**, 700 (2009)].

268. Hideo Aoki: Model construction and pairing symmetry for the iron-based oxypnictides,

Proc. 21st Int. Symposium on Superconductivity, Tsukuba, Oct. 2008 [*Physica C* **469**, 890 (2009)].

269. Hideo Aoki, Takahiro Fukui and Yasuhiro Hatsugai: Topological aspects of quantum Hall effect in graphene,

Proc. 17th Int. Conf. on High Magnetic Fields in Semiconductor Physics, Würzburg, July-Aug. 2006 [*Int. J. Modern Phys. B* **21**, 1133 (2007)].

270. Naoto Tsuji, Shigehiro Takajo and Hideo Aoki: Large magnetic moments generated from loop currents in carbon nanotube attached to electrodes — a theoretical picture,

Proc. 17th Int. Conf. on High Magnetic Fields in Semiconductor Physics, Würzburg, July-Aug. 2006 [*Int. J. Modern Phys. B* **21**, 1198 (2007)].

271. Hideo Aoki: Triplet superconductivity — spin vs charge fluctuations and fermiology,

Proc. 10th Int. Conf. on Muon Spin Rotation, Relaxation and Resonance, Oxford, Aug. 2005 [*Physica B* **374-375**, 229 (2006)].

272. Hideo Aoki: Fermiology and interaction in unconventional superconductors — triplet versus singlet pairs,

Proc. 4th Int. Conf. on Vortex Matter in Nanostructured Superconductors, Crete, 2005 [*Physica C* **437-438**, 11 (2006)].

273. Y. Nishi, P.A. Maksym, D.G. Austing, K. Yamada, H. Aoki, S. Tarucha: Configuration transitions between MDD and spin-polarized pentagonal molecule via lower spin states in a five-electron quantum dot,

Proc. 27th Int. Conf. on Physics of Semiconductors, Flagstaff, USA, Jul. 2004, ed. by J. Menendez and C.G. VanDeWalle [*AIP Cof. Proc.* **772**, 649 (2005)].

274. Hideo Aoki: Design of electron correlation effects in interfaces and nanostructures,

Proc. 7th Int. Conf. on Atomically Controlled Surfaces, Interfaces and Nanostructures, Nara, Nov. 2003 [*Applied Surf. Sci.* **237**, 2 (2004)].

275. Hideo Aoki: Fermiology in correlated electron systems, in Raymond F. Bishop, Tobias Brandes, Klaus A. Gernoth, Niels R. Walet and Yang Xian (ed.): *Recent progress in many-body theories* (Proc. 11th Int. Conf. on Recent Progress in Many-Body Theories, Manchester 2001) ('Advances in quantum many-body theory' Vol. 6) (World Scientific, New Jersey, 2002), pp.13-22 [also published in *Int. J. Mod. Phys. B* **17**, 4953 (2003)].

276. Hideo Aoki: Interaction and dimensionality in the quantum Hall physics

Proc. Int. Workshop on quantum Hall effect — past, present and future, ed. by D. Weiss and R. Haug [*Physica E* **20**, 149 (2003)].

[1983-1999]

277. H. Aoki: Gauge invariance of the Hall current in two- dimensional systems,

in *Application of High Magnetic Fields in Semiconductor Physics* (Lecture Notes in Physics 177) ed. by G. Landwehr (Springer, 1983), pp.11-22.

278. H. Aoki: Localization in the quantum Hall regime,

Proc 7th Int. Conf. on Electronic Properties of Two-Dimensional Systems, Santa Fe, 1987 [*Surf. Sci.* **196**, 107 (1988)].

279. H. Aoki: An overview of the numerical studies of the quantum Hall effect,

in *High Magnetic Fields in Semiconductor Physics III — Quantum Hall Effect*, ed. by G. Landwehr (Springer, Berlin, 1992), pp.17-26.

280. H. Aoki: Internal degrees of freedom in 0D, 1D and 2D electron gases in strong magnetic fields,

in *High Magnetic Fields in the Physics of Semiconductors* ed. by G. Landwehr and W. Ossau (World Scientific, Singapore, 1997) pp. 63-72.

281. H. Aoki: Double quantum dots in the fractional quantum Hall regime,

Proc. Int. Workshop on Novel Physics in Low-Dimensional Electron Systems ed. by T. Chakraborty [*Physica* E **1**, 198 (1997)].

[Conference proceedings — contributed papers] (there are 110 of them, abridged here)