

Curriculum Vitae

Name: Yuya Ominato



A. Education

Mar. 2011, B.S., Physics, Tohoku University

Mar. 2013, M.S., Physics, Tohoku University

Mar. 2016, Ph.D. Physics, Tohoku University

B. Experience

Apr. 2014 – Mar. 2016, JSPS Research Fellow (DC2)

Apr. 2016 – present, Postdoctoral Researcher, IMR, Tohoku University

C. Publication

(Refereed Journal)

- [1] Y. Ominato and M. Koshino, Orbital magnetic susceptibility of finite-sized graphene, *Physical Review B* 85, 165454 (2012)
- [2] Y. Ominato and M. Koshino, Orbital magnetism of grapheme flakes, *Physical Review B* 87, 115433 (2013)
- [3] Y. Ominato and M. Koshino, Orbital magnetism of grapheme nanostructures, *Solid State Communications* 175-176, 51 (2013)
- [4] Y. Ominato and M. Koshino, Quantum transport in three-dimensional Weyl electron system, *Physical Review B* 89, 054202 (2014)
- [5] Y. Ominato and M. Koshino, Quantum transport in three-dimensional Weyl electron system in the presence of charged impurity scattering, *Physical Review B* 91, 035202 (2015)
- [6] Y. Ominato and M. Koshino, Magnetotransport in Weyl semimetals in the quantum limit: Role of topological surface states, *Physical Review B* 93, 245304 (2016)
- [7] Y. Ominato, K. Kobayashi, and K. Nomura, Anisotropic magnetotransport in Dirac-Weyl magnetic junctions, *Physical Review B* 95, 085308 (2017)
- [8] K. Kobayashi, Y. Ominato, and K. Nomura, Helicity-protected domain-wall magnetoresistance in ferromagnetic Weyl semimetal, *J. Phys. Soc. Jpn.* 87, 073707 (2018)
- [9] Y. Ominato and K. Nomura, Spin susceptibility of three-dimensional Dirac semimetals, *Physical Review B* 97, 245207 (2018)
- [10] Y. Ominato, A. Yamakage, and K. Nomura, Electric Polarization in Magnetic Topological Nodal Semimetal Thin Films, *Condens. Matter* 2018, 3(4), 43
(Under review)
- [11] Y. Ominato, S. Tatsumi, and K. Nomura, Spin-orbit crossed susceptibility in topological Dirac semimetals, arXiv:1809.10852 (2018)

D. Presentations (International conference)

(Oral presentation)

- [1] Yuya Ominato and Mikito Koshino, Quantum transport in Weyl semimetals, Aps March Meeting 2014, G43.00003, Denver USA, March 2014
- [2] Yuya Ominato and Mikito Koshino, Quantum transport in three-dimensional Weyl electron system – in the

presence of charged impurity scattering, Aps March Meeting 2015, Q10.00012, San Antonio USA, March 2015

- [3] Yuya Ominato and Mikito Koshino, Magnetotransport in a Weyl semimetal, Aps March Meeting 2016, Y28.00012, Baltimore USA, March 2016
- [4] Yuya Ominato, Koji Kobayashi, and Kentaro Nomura, Quantum transport in Dirac-Weyl semimetal magnetic junction, TOPO MAT Meeting 2016, Stuttgart Germany, September 2016
- [5] Yuya Ominato, Shuta Tatsumi, and Kentaro Nomura, Magnetic response in topological Dirac semimetals, Aps March Meeting 2018, S10.00007, Los Angeles, March 2018

(Poster presentation)

- [1] Yuya Ominato and Mikito Koshino, Orbital diamagnetism of graphene ribbons, ICPS 2012, 31.50 122, Zurich Switzerland, July 2012
- [2] Yuya Ominato and Mikito Koshino, Orbital diamagnetism of graphene nanostructures, RPGR 2013, 12p-P4-09, Tokyo Japan, September 2013
- [3] Yuya Ominato and Mikito Koshino, Quantum Transport in Weyl Semimetals, ICPS 2014, N5, Austin Texas USA, August 2014
- [4] Yuya Ominato and Mikito Koshino, Quantum Transport in three-dimensional Weyl electron system, EP2DS 2015, Mo-PE-107, Sendai Japan, July 2015
- [5] Yuya Ominato and Kentaro Nomura, Spin magnetic susceptibility of Dirac semimetals, TopoMat2017, PB-20, Tokyo Japan, May 2017
- [6] Yuya Ominato and Kentaro Nomura, Electronic polarization in topological nodal semimetal thin film, QUANTUM MATERIALS SUMMER SCHOOL 2018, 30, Montreal Canada, June 2018
- [7] Yuya Ominato and Kentaro Nomura, Electronic polarization in topological nodal semimetal thin film, Erice Workshop2018, P-02, Erice Italy, July 2018

E. Presentations (Domestic conference)

(Oral presentation)

- [1] Yuya Ominato and Mikito Koshino, Orbital diamagnetism of graphene ribbons, JPS Annual Meeting 2012, 27aSB-4, KWANSEI GAKUIN University, March 2012
- [2] Yuya Ominato and Mikito Koshino, Orbital diamagnetism and magnetic field alignment of graphene flakes, JPS Autumn Meeting 2012, 18aEC-8, Yokohama National University, September 2012
- [3] Yuya Ominato and Mikito Koshino, Electrical conductivity in 3D Dirac electron systems, JPS Autumn Meeting 2013, 28aDK-12, University of Tokushima, September 2013
- [4] Yuya Ominato and Mikito Koshino, Charge transport in Weyl semimetals, JPS Annual Meeting 2014, 27pBF-1, Tokai University, March 2014
- [5] Yuya Ominato and Mikito Koshino, Magnetotransport in a Weyl semimetal --- effect of topological surface states and chiral anomaly, JPS Autumn Meeting 2016, 13aAM-2, Kanazawa University, September 2016
- [6] Yuya Ominato, Koji Kobayashi, and Kentaro Nomura, Quantum transport in magnetic Dirac/Weyl semimetal junctions, JPS Autumn Meeting 2016, 13aAM-7, Kanazawa University, September 2016
- [7] Yuya Ominato and Kentaro Nomura, Magnetic phase transition in magnetically doped Dirac semimetals, JPS

Autumn Meeting 2016, 13aAM-8, Kanazawa University, September 2016

- [8] Yuya Ominato, Shuta Tatsumi, and Kentaro Nomura, Magnetic response in topological Dirac semimetals, JPS Autumn Meeting 2017, 21aB32-7, Iwate University, September 2017
- [9] Yuya Ominato and Kentaro Nomura, Electric polarization in topological nodal semimetals, JPS Annual Meeting 2018, 24pB101-9, Tokyo University of Science, March 2018
- [10] Yuya Ominato and Kentaro Nomura, Charge transport in Luttinger semimetals, JPS Autumn Meeting 2018, 9pK106-9, Doshisha University, September 2018

(Poster presentation)

- [1] Yuya Ominato, Koji Kobayashi, and Kentaro Nomura, Anisotropic magnetotransport in magnetic Dirac/Weyl semimetal junctions, Topological Materials Science Workshop, P42, Tohoku University, December 2016
- [2] Yuya Ominato and Kentaro Nomura, Electric polarization in magnetically doped topological insulators, IMR Workshop, P54, Tohoku University, November 2017