Citizenship
Republic of Korea (South Korea)

KAIST (Korea Advanced Institute of Science and Technology)
Candidate of Integrated Master’s and Ph.D Program in Physics (Expected Graduation Date: August 2020)

KAIST (Korea Advanced Institute of Science and Technology)
Bachelor of Science, Magna Cum Laude, February, 2013
Double major in Physics and Mathematical Sciences

HanKuk University of Foreign Studies
In Department of Physics

2018 Outstanding Poster Award, Workshop on Spin-orbit Coupled Topological states

2018 Pre-doctoral Fellow of Physics at KAIST, Department of Physics, KAIST

2014 Spring Outstanding Teaching Assistant Awards, Department of Physics, KAIST

2011 Presidential Design Award, Fall Semester’s Freshmen Design Course Award, KAIST

2014 - 2015 Scholarship, Center for Theoretical Physics, Institute for Basic Science

2006 - 2008 Scholarship, Hankuk University of Foreign Studies

Referee
of Phys. Rev. Research.

Referee
of Phys. Rev. Lett.

Referee
of Phys. Rev. B

Sargent
at Military service at Army in Republic of Korea

“Lattice vibration as a knob for novel quantum criticality: Emergence of supersymmetry from spin-lattice coupling”

SangEun Han, JUNHYUN, AND EUN-GOOK MOON
arXiv:1911.01435 [cond-mat.str-el]

“Emergent Anisotropic Non-Fermi Liquid at a Topological Phase Transition in Three Dimensions”

SangEun Han, CHANGHEE LEE, HONGKI MIN, AND EUN-GOOK MOON
Phys. Rev. Lett. 122, 187601. arXiv:1809.10691 [cond-mat.str-el]

“Quantum Criticality with Infinite Anisotropy in Topological Phase Transitions between Dirac and Weyl Semi-metals”

SangEun Han, GIL YOUNG CHO, AND EUN-GOOK MOON
Phys. Rev. B 98, 085149. arXiv:1804.01547 [cond-mat.str-el]
“Long-range Coulomb Interaction effects on Topological Phase Transitions between Semi-metals and Insulators”
SangEun Han and Eun-Gook Moon
Phys. Rev. B 97, 241101(R). arXiv:1802.05727 [cond-mat.str-el]

“Topological Phase Transitions in Line-nodal Superconductors”
SangEun Han, Gil Young Cho, and Eun-Gook Moon
Phys. Rev. B 95, 094502. arXiv:1601.00975 [cond-mat.str-el]

“Explaining the Lepton Non-universality at the LHCb and CMS from an Unified Framework”
Sanjoy Biswas, Debtopsh Chowdhury, SangEun Han, and Seung J. Lee
JHEP 02, 142 (2015). arXiv:1409.0882 [hep-ph]

MANUSCRIPTS UNDER PREPARATION

“Stability of O(N) criticality with Lattice Vibrations”
SangEun Han and Eun-Gook Moon

Presentation

ORAL PRESENTATION

KAIST-Weizmann Workshop on Quantum Condensed Matter Physics
Emergence of Supersymmetry from spin-lattice coupling
Rehovot, Israel
Dec. 5, 2019

2019 KPS Fall Meeting
Quantum criticalities with lattice vibrations
Gwangju, S. Korea
Oct. 25, 2019

APS March Meeting 2019
Emergent Anisotropic Non-Fermi Liquid
Boston, USA
Mar. 4, 2019

11th BK21+ Young Physicists Workshop
Emergent Anisotropic Non-Fermi Liquid
Pohang, S. Korea
Feb. 15, 2019

2018 KPS Spring Meeting
Emergent Anisotropic Non-Fermi Liquid
Daejeon, S. Korea
Apr. 26, 2018

APS March Meeting 2018
Long-range Coulomb Interaction effects on Topological Phase Transitions between Semi-metals and Insulators
Los Angeles, USA
Mar. 7, 2018

2017 KPS Spring Meeting
Topological Phase Transitions in Dirac semi-metals of distorted spinels
Daejeon, S. Korea
Apr. 21, 2017

APS March Meeting 2017
Topological Phase Transitions in Dirac semi-metals of distorted spinels
New Orleans, USA
Mar. 14, 2017

POSTER PRESENTATION

2020 Theory Winter School
Emergence of supersymmetry from spin-lattice coupling
Tallahassee, USA
Jan. 6-10, 2020

IBSPCS-KIAS International Workshop Frustrated Magnetism
Stability of Quantum Criticalities
Daejeon, S. Korea
Oct. 14-18, 2019

The 2nd Workshop on Spin-orbit Coupled Topological States
Stability of Quantum Criticalities
Pohang, S. Korea
Sep. 19-21, 2019

KIAS workshop on Topology and Correlation in quantum materials
Emergent Anisotropic Non-Fermi Liquid at a Topological Phase Transition in Three Dimensions
Busan, S. Korea
May 29-31, 2019

The 19th JAPAN-KOREA-TAIWAN SYMPOSIUM ON STRONGLY CORRELATED ELECTRON SYSTEMS
Long-range Coulomb Interaction effects on Topological Phase Transitions between Semi-metals and Insulators / Emergent Anisotropic Non-Fermi Liquid
Tokyo, Japan
Jan. 11-13, 2019

The 1st Workshop on Spin-Orbit Coupled Topological States
Long-range Coulomb Interaction effects on Topological Phase Transitions between Semi-metals and Insulators / Emergent Anisotropic Non-Fermi Liquid
Pohang, S. Korea
Oct. 1-5, 2018

• Outstanding Poster Award

January 15, 2020
SangEun Han · Curriculum Vitae
| Event                                                                 | Location          | Dates               |
|----------------------------------------------------------------------|-------------------|---------------------|
| Advanced School and Workshop on Correlations in Electron Systems –  | Trieste, Italy    | Aug. 6-17, 2018     |
| from Quantum Criticality to Topology -                              |                   |                     |
| Long-range Coulomb Interaction effects on Topological Phase Transitions|                   |                     |
| between Semi-metals and Insulators / Emerging Anisotropic Non-Fermi Liquid |                   |                     |
| International Workshop on “New Paradigms in Quantum Matter 2018”     | Beijing, China    | Jun. 24-Jul. 7, 2018 |
| Long-range Coulomb Interaction effects on Topological Phase Transitions|                   |                     |
| between Semi-metals and Insulators / Emerging Anisotropic Non-Fermi Liquid |                   |                     |
| KIAS workshop on Topology and Correlation                           | Seoul, S. Korea   | Jun. 7-8, 2018      |
| Long-range Coulomb Interaction effects on Topological Phase Transitions|                   |                     |
| between Semi-metals and Insulators                                  |                   |                     |
| 10th BK21+ Young Physicists Workshop                                | Seoul, S. Korea   | Feb. 8-9, 2018      |
| Long-range Coulomb Interaction effects on Topological Phase Transitions|                   |                     |
| between Semi-metals and Insulators                                  |                   |                     |
| The 19th International Conference on Recent Progress in Many-Body Theories | Pohang, S. Korea | Jun. 25-30, 2017    |
| Long-range Coulomb Interaction effects on Topological Phase Transitions|                   |                     |
| between Semi-metals and Insulators                                  |                   |                     |
| 2016 Quantum Materials Symposium                                    | Incheon, S. Korea | Feb. 22-26, 2016    |
| Topological Phase Transitions in Line-nodal Superconductors         |                   |                     |

### Conferences / Scientific Schools

| Event                                                                 | Location          | Dates               |
|----------------------------------------------------------------------|-------------------|---------------------|
| 2020 Theory Winter School                                            | Tallahassee, USA  | Jan. 6-10, 2020     |
| KAIST-Weizmann Workshop on Quantum Condensed Matter Physics          | Rehovot, Israel   | Dec. 4-5, 2019      |
| 2019 KPS Fall Meeting                                                | Gwangju, S. Korea | Oct. 23-25, 2019    |
| IBSPCS-KIAS International Workshop Frustrated Magnetism             | Daejeon, S. Korea | Oct. 14-18, 2019    |
| The 2nd Workshop on Spin-orbit Coupled Topological States           | Pohang, S. Korea  | Sep. 19-21, 2019    |
| KIAS workshop on Topology and Correlation in quantum materials      | Busan, S. Korea   | May 29-31, 2019     |
| Workshop Quantum Many-Body States 2019                              | Daejeon, S. Korea | May 9-10, 2019      |
| Mini-Workshop Exotic Magnetic Phases in Quantum Many-body Systems   | Daejeon, S. Korea | Apr. 23, 2019       |
| APS March Meeting 2019                                               | Boston, USA       | Mar. 4-8, 2019      |
| 11th BK21+ Young Physicists Workshop                                | Pohang, S. Korea  | Feb. 14-15, 2019    |
| The 19th JAPAN-KOREA-TAIWAN SYMPOSIUM ON STRONGLY CORRELATED ELECTRON SYSTEMS | Tokyo, Japan | Jan. 11-13, 2019 |
| The 1st Workshop on Spin-Orbit Coupled Topological States           | Pohang, S. Korea  | Oct. 1-5, 2018      |
| KAIST-UCSB-KAERI joint Workshop on Correlated Electronic Systems    | Daejeon, S. Korea | Sept. 20-21, 2018   |
| Advanced School and Workshop on Correlations in Electron Systems -  | Trieste, Italy    | Aug. 6-17, 2018     |
| from Quantum Criticality to Topology -                              |                   |                     |
| International Workshop on “New Paradigms in Quantum Matter 2018”    | Beijing, China    | Jun. 24-Jul. 7, 2018 |
KIAS-KAIST workshop on Topology and Correlation

Workshop Quantum Many-Body States 2018

2018 KPS Spring Meeting

APS March Meeting 2018

10th BK21+ Young Physicists Workshop

APCTP Mini-school on Entanglement and Topological Phases of Matter

The 19th International Conference on Recent Progress in Many-Body Theories

4th One-day KIAS Workshop on Recent Progress in Condensed Matter Physics

2017 KPS Spring Meeting

APS March Meeting 2017

Pyeong-Chang Summer Institute 2016

2016 KPS Spring Meeting

2016 Quantum Materials Symposium

Focus Workshop Topology in Matter

IBS-MultiDark Joint Focus Program: WIMPs and Axions

The 2nd New Physics @ Korea Institute workshop

Pyeong-Chang Summer Institute 2014

Cargese International School for Theoretical Particle Physics: MultiTeV Probes of the Standard Model and beyond with the LHC

2014 KIAS-SNU Physics Winter Camp

2014 Open KIAS Winter School on Collider Physics

Busan Particle Physics Workshop

19th International Summer Institute on Phenomenology of Elementary Particles and Cosmology

Pyeong-Chang Summer Institute 2013
Teaching experiences

Teaching Assistants in
\[ \begin{align*}
&\text{PH504 Graduate Quantum Mechanics 2} \\
&\text{PH503 Graduate Quantum Mechanics 1} \\
&\text{PH496 Colloquium & PH990 Seminar} \\
&\text{PH503 Graduate Quantum Mechanics 1} \\
&\text{PH302 Undergraduate Quantum Mechanics 2} \\
&\text{PH301 Undergraduate Quantum Mechanics 1} \\
&\text{PH654 Quantum Field Theory 2} \\
&\text{PH142 General Physics 2} \\
&\text{PH141 General Physics 1} \\
\end{align*} \]

References

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