

Haeun Chung | Curriculum Vitae

University of Arizona, Steward Observatory
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Appointments

University of Arizona <i>Postdoctoral Research Associate</i> Mentor: Prof. Erika Hamden	Tucson, AZ, USA 09/2019 - present
Korea Institute for Advanced Study (KIAS) <i>Student Fellow</i> Advisor: Prof. Changbom Park	Seoul, Korea 05/2015 - 08/2019
Korea Institute for Advanced Study (KIAS) <i>Research Assistant (Astrophysics Group)</i> Advisor: Prof. Changbom Park	Seoul, Korea 03/2012 - 08/2019
Inter-University Centre for Astronomy and Astrophysics (IUCAA) <i>Visiting Research Scholar (Instrumentation Group)</i> Advisor: Prof. A. N. Ramaprakash Multiple visits: 07/2012 - 02/2013, 07/2013 - 01/2014, 06/2014 - 08/2014 06/2015 - 08/2015, 03/2016 - 06/2016, 11/2018 - 02/2019	Pune, India
University of Minnesota, Twin Cities <i>Undergraduate Researcher</i> Advisor: Prof. Terry Jay Jones, Worked on MMTPol hexapod test	Minneapolis, MN, USA 01/2011 - 05/2011

Education

Seoul National University <i>Ph.D. in Astronomy</i> Advisor: Prof. Yong-Sun Park Co-Advisor: Prof. Changbom Park (Korea Institute for Advanced Study)	Seoul, Korea 09/2012 - 08/2019
Pohang University of Science and Technology (POSTECH) <i>B.S. in Physics, cum laude</i>	Pohang, Korea 03/2008 - 02/2012
University of Minnesota, Twin Cities <i>College of Science and Engineering, Exchange Student</i>	Minneapolis, MN, USA 09/2010 - 05/2011

Teaching Experiences

- *Introduction to Astrophysics*, Teaching Assistant, Fall 2011
- *General Physics II*, Tutor, Fall 2011
- *General Physics I*, Teaching Mentor, Student Mentoring Program, Spring 2010

- *General Physics I*, Teaching Assistant, Spring 2009

Scholarships

Student Fellowship

Korea Institute for Advanced Study 2015 - 2019

Merit-Based Scholarship

Seoul National University 2015, 2016

SNU Development Fund (Inha Kim) Scholarship

Department of Physics and Astronomy, Seoul National University 2014

Study Abroad Scholarship

Tuition and stipend for exchange students, POSTECH 2010

National Scholarship For Science and Engineering

Full tuition awarded by National Research Foundation of Korea for 7 semesters 2008 - 2011

Computer Skills

Programming Language: Python, IDL, C/C++, Zemax Programming Language

Software: Zemax OpticStudio, SolidWorks, Git, GSolver

Data Analysis Code: pPXF, STARLIGHT

Research Interests

Interests in astronomical instrumentation and observational astronomy, including:

- Integral Field Spectrograph
- System Engineering
- Galaxy Kinematics and Dynamics
- Environmental Effects on Galaxy Properties
- Optical Design
- Software Development
- Galaxy Formation and Evolution
- Galaxy Interactions and Mergers

Academic References

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◦ Prof. Changbom Park

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◦ Dr. Ho Seong Hwang

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Korea Astronomy and Space Science Institute

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◦ Prof. A. N. Ramaprakash

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◦ Prof. Yong-Sun Park
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Publications (ADS Link)

Refereed Publications.....

9. *The Fifteenth Data Release of the Sloan Digital Sky Surveys: First Release of MaNGA-derived Quantities, Data Visualization Tools, and Stellar Library*
SDSS Collaboration (**Chung, H.**), 2019, ApJS, 240, 23
8. *Noise characterization of IUCAA digital sampling array controller*
Chattopadhyay, S., Ramaprakash, A. N., Joshi, B., Chordia, P. A., Burse, M. P., Chillal, K., Sinha, S., Punnadi, S. P., Rikame, K., Hong, S. E., Paranjpye, D., **Chung, H.**, Park, C., Omar, A., 2018, JATIS, 4, 036002
7. *A study of environmental effects on galaxy spin using MaNGA data*
Lee, J. C., Hwang, H. S., **Chung, H.**, 2018, MNRAS, 477, 1567
6. *The Fourteenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the Extended Baryon Oscillation Spectroscopic Survey and from the Second Phase of the Apache Point Observatory Galactic Evolution Experiment*
SDSS Collaboration (**Chung, H.**), 2018, ApJS, 235, 42
5. *The 13th Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-IV Survey MApping Nearby Galaxies at Apache Point Observatory*
SDSS Collaboration (**Chung, H.**), 2017, ApJS, 233, 25
4. *Star Formation Activity of Barred Spiral Galaxies*
Kim, E., Hwang, H. S., **Chung, H.**, Lee, G.H., Park, C., Cervantes Sodi, B., Kim, S. S., 2017, ApJ, 845, 83
3. *Sloan Digital Sky Survey IV: Mapping the Milky Way, Nearby Galaxies and the Distant Universe*
SDSS Collaboration (**Chung, H.**), 2017, AJ, 154, 28
2. *Stellar Populations of Early-type Galaxies with Mid-infrared Excess Emission*
Ko, J., **Chung, H.**, Hwang, H. S., Lee, J. C., 2016, ApJ, 820, 132
1. *Development Status of the Dotifs Data Simulator and the Reduction Package*
Chung, H., Ramaprakash, A. N., Park, C. 2015, PKAS, 30, 675

Conference Proceedings.....

5. *Multiple rooks of chess: a generic integral field unit deployment technique*
Chattopadhyay, S., Ramaprakash, A. N., Khodade, P., Chakravarti, K., Shaikh, S., **Chung, H.**, Hong, S. E., 2018, Proc. SPIE, 10706, 107065S

4. *A new photolithography based technique to mass produce microlens+ fibre based integralfield units (IFUs) for 2D spectroscopy*
Chattopadhyay, S., Joshi, V., Ramaprakash, A. N., Modi, D., Kohak, A., **Chung, H.**, 2018, Proc. SPIE, 10706, 107062D
3. *DOTIFS: fore-optics and calibration unit design*
Chung, H., Ramaprakash, A. N., Khodade, P., Rajarshi, C. V., Chattopadhyay, S., Chordia, P. A., Omar, A., Park, C., 2018 Proc. SPIE, 10702, 107027U
2. *DOTIFS: spectrograph optical and opto-mechanical design*
Chung, H., Ramaprakash, A. N., Khodade, P., Modi, D., Rajarshi, C. V., Chattopadhyay, S., Chordia, P. A., Joshi, V., Hong, S. E., Omar, A., Ravindranath, S., Park, Y. S., Park, C., 2018 Proc. SPIE, 10702, 107027A
1. *DOTIFS: a new multi-IFU optical spectrograph for the 3.6-m Devasthal optical telescope*
Chung, H., Ramaprakash, A. N., Omar, A., Ravindranath, S., Chattopadhyay, S., Rajarshi, C. V., Khodade, P. 2014 Proc. SPIE, 9147, 91470V

Papers in Preparation.....

PSF Deconvolution of the IFU Data and Restoration of Galaxy Stellar Kinematics

Chung, H., Park, C., Park, Y., 2020, *in prep.*

Rotation Curves of SDSS-IV MaNGA Galaxies and their Mass and Environmental Dependence

Chung, H., Park, C., Hwang, H. S., 2020, *in prep.*

Selected Conferences and Seminars

9. Poster, *Rotation Curves of SDSS-IV MaNGA Galaxies and their Mass and Environmental Dependence*
The 8th KIAS workshop on Cosmology and Structure Formation, Seoul, Korea, Nov. 4-9, 2018
8. Oral Presentation, *Rotation Curves of SDSS-IV MaNGA Galaxies and their Mass and Environmental Dependence*
2018 SDSS-IV Collaboration Meeting, Seoul, Korea, Jun. 18-22, 2018
7. Poster, *DOTIFS: spectrograph optical and opto-mechanical design*
2018 SPIE Astronomical Telescopes and Instrumentation, Austin, TX, USA, Jun. 10-15, 2018
6. Poster, *DOTIFS: fore-optics and calibration unit design*
2018 SPIE Astronomical Telescopes and Instrumentation, Austin, TX, USA, Jun. 10-15, 2018
5. Seminar Talk, *DOTIFS: a new multi-IFU optical spectrograph for the 3.6-m Devasthal optical telescope - overview and development status*
Canada-France-Hawaii Telescope Headquarters, Waimea, HI, USA, Jan. 24, 2018
4. Poster, *Stellar Populations of early-type galaxies with mid-infrared excess emission*
The 7th KIAS workshop on Cosmology and Structure Formation, Seoul, Korea, Oct. 30-Nov. 4, 2016
3. Poster, *DOTIFS: a new optical multi-Integral Field Unit spectrograph for the 3.6m Devasthal optical telescope*
The 10th East-Asia Meeting on Astronomy, Seoul, Korea, Sep. 26-30, 2016

2. Poster, *Development Status of the DOTIFS Data Simulator and the Reduction Package*
12th Asia-Pacific Regional IAU Meeting, Daejeon, Korea, Aug. 18-22, 2014
1. Oral Presentation, *DOTIFS: a new multi-IFU optical spectrograph for the 3.6-m Devasthal optical telescope*
2014 Astronomical Telescopes and Instrumentation, Montréal, Québec, Canada, Jun. 22-27, 2014