

SE-HEON OH

CURRICULUM VITAE

THE AUSTRALIAN NATIONAL UNIVERSITY
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QUALIFICATION

2009 MAR 20: PhD thesis submitted

The Australian National University, Research School of Astronomy & Astrophysics

Expected: PhD in Astronomy and Astrophysics

“Dark and Luminous Matter in Dwarf Galaxies”

Supervisor: Prof. Erwin (W. J. G.) de Blok (University of Cape Town)

2004 FEB: Yonsei University, Department of Astronomy, Seoul, Korea

B.Sc. in Astronomy

EMPLOYMENT

Visiting Scholar at Lowell Observatory (2009)

Supervisor: Dr. Deidre Hunter – The LITTLE THINGS Survey

ACADEMIC AWARDS and SCHOLARSHIPS

Alex Rodgers Traveling Scholarship (2007)

6th ATNF Synthesis Imaging School 2nd Prize Student Research Poster (2006)

Endeavor International Postgraduate Research Scholarship (2005–2009)

Australian National University PhD Scholarship (2005–2008)

RSAA Supplementary Scholarship (2005–2008)

Scholarship of Korea Science and Engineering Foundation (2004)

TEACHING EXPERIENCE

Tutoring, Demonstrating and Marking for “Understanding of Universe” at Yonsei Univ. (Fall 2004)

Tutoring, Demonstrating and Marking for “Observational Astronomy” at Yonsei Univ. (Spring 2004)

TELESCOPE TIME and FUNDING GRANTS

ATCA HI 21cm (400 hours+; CO-I.), Narrabri, Australia (2006)

SPARSEPAK+T2KA on the WIYN 3.5m Telescope (3 nights), KPNO, USA (2006)

CFIM+T2KB on the KPNO 2.1m Telescope (4 nights), KPNO, USA (2006)

ANSTO grant awarded to fund WIYN 3.5m observing, KPNO, USA (2006)

WIFI on the 40” Telescope (3 nights), SSO, Australia (2005)

ASTRONOMY EXPERIENCE / SKILLS

• Observing Experience:

ATCA HI 21cm (100 hours+ including remote observing), Narrabri, Australia (2007)
Parkes 64m HI 21cm (72 hours+), Parkes, Australia (2006)
SPARSEPAK+T2KA on the WIYN 3.5m Telescope (3 nights), KPNO, USA (2006)
CFIM+T2KB on the KPNO 2.1m Telescope (4 nights), KPNO, USA (2006)
WIFI on the 40" Telescope (3 nights), SSO, Australia (2005)
BOES (Optical Echell Spectrograph) on the 1.8m telescope (2 nights), BOAO, Korea (2004)
TRAO 14m CO observation (6 hours+), KASI, Korea (2002)

• **Computing Skills:**

Highly experienced in programming in C/C++, Fortran and C-Shell scripting
Highly experienced in using Unix/Linux and Microsoft Window operating systems
Highly experienced in managing UNIX/LINUX based network systems (NFS, NIS, and ftp servers)
Extensive utilisation of \LaTeX , GNUplot, sm, Word, Excel and Powerpoint to write-up, plot and present scientific results
Moderate experience in programming with HTML
Some experience in programming with Python and PHP

• **Astro. Data Reduction:**

Highly experienced in reducing HI data cubes as well as interferometric uv -data
Highly experienced in reducing IFU and single slit spectra (IRAF and NEMO)
Highly experienced in reducing single and mosaic CCD images
Highly experienced in analysis of dynamics of galaxies (GIPSY and NEMO)
Highly experienced with aperture photometry (IRAF, DAOPHOT, and SourceExtractor) and PSF photometry (DAOPHOT)
Highly experienced in Monte Carlo simulations
Moderate experience with Image Subtraction Analysis

• **Astro. Software Development:**

Pipeline for simulations of HI data cubes of galaxies
TAROT (THINGS Automatic ROTationcurve Task) for the derivation of rotation curves
C-program for extracting the bulk velocity fields from HI data cubes
Pipeline for the detection of Optical Transients
Control Software ("SKYCAM") for the CCD camera made by Yonsei University Observatory
C-program for Cosmic-Ray removal from single CCD images

• **Visits to Other Institutes:**

Dept. of Astronomy, Univ. of Cape Town, South Africa (Sept-Oct, 2007)
– Collaboration with Prof. Erwin de Blok
Centre for Astrophysics Research, Univ. of Hertfordshire, U.K. (June, 2007)
– Collaboration with Prof. Elias Brinks

• **Other:**

Member of THINGS project
Member of Stromlo Galaxy Lunch Meeting
Member of OC for Mt Stromlo Student Seminars 2005

REFEREED PUBLICATIONS

1. **S-H. Oh**, W. J. G. de Blok, F. Walter, E. Brinks, & R. C. Kennicutt, Jr.
“High-Resolution Dark Matter Density Profiles of THINGS Dwarf Galaxies: Correcting for non-circular motions”
2008, AJ special THINGS issue, 136, 2761O
2. W. J. G. de Blok, F. Walter, E. Brinks, C. Trachternach, **S-H. Oh**, & R. C. Kennicutt, Jr.
“High-Resolution Rotation Curves Galaxy Mass Models from THINGS”
2008, AJ special THINGS issue, 136, 2648D
3. **S-H. Oh**, Y-W. Kang, & Y-I. Byun
“A Design and Development of Multi-Purpose CCD Camera System with Thermoelectric Cooling: Software”
2007, JASS, 24, 367O
4. Y-W. Kang, Y-I. Byun, J-H. Rhee, **S-H. Oh**, & D-K. Kim
“A Design and Development of Multi-Purpose CCD Camera System with Thermoelectric Cooling: Hardware”
2007, JASS, 24, 309O
5. Y-H. Bae, Y-I. Byun, Y-W. Kang, S-Y. Park, **S-H. Oh**, S-Y. Yu, W-Y. Han, H-S. Yim, & H-K. Moon
“Algorithms for Moving Object Detection”
2005, JASS, 22, 383B

IN PREPARATION

- S-H. Oh**, W. J. G. de Blok, F. Walter, E. Brinks, & R. C. Kennicutt, Jr.
“Dark and Luminous Matter in THINGS Dwarf Galaxies”
- S-H. Oh**, W. J. G. de Blok, E. Brinks, & F. Walter
“Simulation of Non-Circular Motions in Galaxies”

NON-REFEREED PUBLICATIONS

1. E. Brinks, **S-H. Oh**, I. Bagetakos, F. Bigiel, A. Leroy, A. Usero, F. Walter, W. J. G. de Blok, & R. C. Kennicutt, Jr.
“The Gas Phase in a Low Metallicity ISM”
2008, IAU Symposium 255, Low–Metallicity Star Formation
2. **S-H. Oh**, W. J. G. de Blok, F. Walter & E. Brinks
“High-Resolution Dark Matter Density Profiles of Two THINGS Dwarf Galaxies”
2007, Galaxies in the Local Volume, Sydney

POSTER / TALK PRESENTATION

1. **S-H. Oh**
“Simulations of Non-Circular Motions in Galaxies”
2007, Lunch talk, Dept. of Astronomy, Univ of Cape Town, South Africa. (talk)
2. **S-H. Oh**, W. J. G. de Blok, F. Walter, & E. Brinks
“High-Resolution Dark matter density profiles of THINGS dwarf galaxies: Testing the “cusp/core” problem”
2007, IAU Symposium 244, Cardiff, U.K. (poster presentation)

3. S-H. Oh

“Dark matter in THINGS dwarf galaxies”

2007, Colloquium, Centre for Astrophysics Research, Univ of Hertfordshire, U.K. (talk)

4. S-H. Oh

“Dark matter density profiles of THINGS dwarf galaxies”

2007, THINGS 1st Workshop, Heidelberg (talk)

5. S-H. Oh

“THINGS To Do: Future”

2007, THINGS 1st Workshop, Heidelberg (talk)

6. S-H. Oh, W. J. G. de Blok, F. Walter, & E. Brinks

“High-Resolution Rotation Curves of THINGS dwarf galaxies”

2006, Astronomical Society of Australia Meeting at ADFA, Canberra (poster presentation)

7. S-H. Oh

“Dark and Luminous matters in dwarf galaxies”

2006, LVHIS Workshop, Sydney (talk)

8. S-H. Oh

“Fast Optical Transient from YSTAR”

2005, Stromlo X-mas Seminar (talk)

9. S-H. Oh & K. C. Freeman

“Recent Star Formation of NGC5102”

2005, Astronomical Society of Australia Meeting at Univ of Sydney, Sydney (talk)

10. S-H. Oh & Y-I. Byun

“Fast Optical Transient from YSTAR”

2004, Korea Astronomical Society Annual Meeting, KASI, Korea (talk)

11. S-H. Oh & Y-I. Byun

“YSTAR-KAO Detection of Optical Transients”

2004, Science with LSST and Other Large Surveys, Seattle, USA (poster presentation)

12. S-H. Oh, Y-W. Kang, & Y-I. Byun

“Development of Software for the CCD Camera System made by Yonsei University Observatory”

2002, Korea Astronomical Society Annual Meeting, Pusan Univ., Korea (talk)

REFEREES

Prof. Erwin de Blok

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Republic of South Africa

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