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RESEARCH INTERESTS

My research combines observation, instrumentation, and theoretical approaches to characterizing exoplanets and finding realistic means to determine their habitability. My recent work has specialized in polarimetry of potentially habitable terrestrial exoplanets. I have helped develop radiative transfer code for both transits and polarimetry; am experienced in instrument design, fabrication, and testing (polarimeters and other instruments); and have observed a variety of objects (galaxies, red dwarf stars, planet hosting systems, etc.) using a variety of instruments (e.g. aperture polarimeters, IFUs, vis & IR photometers, etc.). My work has disputed the first detection of polarized light from an exoplanet, eliminated certain cloud scenarios for a hot Jupiter, provided guidelines for reliable polarized light detection from exoplanets, improved the modelling software available for radiative transfer (including polarization), and provided estimates of polarimetric signals from realistic terrestrial and super Earth scenarios utilizing climate models, with comparisons of polarimetry to other characterization methods. I am deeply aware of the needs of software development and laboratory inputs to enable the use of models in the detection and characterization of exoplanets and the icy moons of our Solar System, as well as of the observational needs for such endeavors.

EDUCATION

Ph.D. Astrophysics — Start Date: March 2012
University of New South Wales, Sydney, Australia — Submitted: Sept 2015
Thesis: Polarimetry of hot-Jupiter systems and radiative transfer models of planetary atmospheres — Accepted: Nov 2015
Conferred: June 2016
Primary advisor: Jeremy Bailey; Co-advisor: Chris Tinney

Bachelor of Arts, Physics & *Bachelor of Science*, Astronomy (Dual Degree)
University of Hawai'i, Hilo, HI — Dec 2008

RESEARCH EXPERIENCE

University of California, Riverside — Postdoctoral Scholar, 2020–
Advisor: Stephen Kane (Planetary Research Lab)
Projects (current planned): Polarimetry of planets, Solar System analogues (particularly ice giants) , TESS lightcurve analysis for planet characterization, Solar System icy moons, TESS stellar activity

University of Washington & Virtual Planetary Laboratory — Postdoctoral Scholar, 2016–2020
Advisor: Victoria Meadows
Projects:

- Developed models of exoplanets in realistic atmospheric and environmental scenarios in polarized light to assess habitability, climate, and biosignatures as appropriate for terrestrial planets, super Earths, and mini Neptunes, producing predictions on key areas of phase- and spectral-space providing a framework to distinguish between otherwise degenerate planet types (e.g. whether an Earth sized planet is more like Earth or Venus, or whether a $\sim 1.5 R_{\oplus}$ planet has a more terrestrial or ice giant like composition
- Provided observational requirement guidelines for instrumentation in new mission architectures and infrastructure, applying numerical methods to simulate atmospheric states for both solar system and extrasolar bodies, and assessing observability of these features
- Continued development of radiative transfer models (VSTAR) including a 3-D input, parallelized spectral

solutions, and improved ground cover treatments to extend the utility of the software
- Identified key areas of need in polarimetric treatments of surfaces in radiative transfer code, developed collaborative partnerships with laboratories providing cutting edge improvements to the reflectance functions used in the models and integrated this data into a more thorough treatment for polarized surfaces, aiding the application of the models to solar system measurements, and hence to the benchmarking vital to exoplanet polarimetry
- Utilized climate models and photochemistry (ATMOS) to developed predictive condensation models for super Earths and hot Jupiters as inputs for radiative transfer solutions to provide guidelines to the community for realistic limits to polarimetric signals
- Part of a team that commissioned and field tested a novel polarimeter for detecting the chirality of photosynthetic pigment signatures (an agnostic biosignature), as part of a spaceflight instrument concept collaboration (Ames, SETI, STScI, GISS, U Florida)
- Collaborations on polarimetry of stellar activity, interstellar medium, debris disks (observation and model/theory), ice giant isotopic abundances, polarimetric signals from exoplanet systems, solar system polarimetry
- Learning high spectral resolution polarimetric cross correlation

University of New South Wales Research Assistant (contemporaneous with PhD), 2012–2015
Projects:
- Utilized new high resolution spectra (combined from Gemini South, AAT) of Uranus with radiative transfer models, simulating aerosol and cloud properties, to provide a new isotopic ratio retrieval
- Part of a team that designed, built, and commissioned the highest precision polarimeter in the world. Aided in the development of the driving code for the instrument, developed instrument simulation tools, aided in commissioning, took observations, applied Lambert-Rayleigh models to exoplanet results
- Produced robust models of forward polarimetric radiative transfer and compared them to new (HiPPI) polarimetric data; this resulted in papers disputing previous detections of polarized light from an exoplanet, laying the groundwork for how such observations could be more reliably retrieved, and providing upper limits of exoplanet albedos ruling out certain cloud scenarios
- Observed cool brown dwarf candidates (on-off methane, H-band identification) for use in discovery publication (Tinney)
- Retrieved self-consistent atmospheric compositions of exoplanets using a suite of space and ground based spectral and photometric observations (from new and published data), and used these to provide polarimetric predictions
- Provided forward models (VSTAR - Fortran) of hot Jupiter transit and secondary eclipse spectra for comparisons to observations to community
- As part of a team, contributed to the development of radiative transfer code to provide both transit and polarized light solutions
- Collaborations on circumstellar disk shortwave polarized radiative signals, atmospheres from ground-based exoplanet photometry assessed with radiative transfer retrievals, trends in ISM polarimetry

Institute for Astronomy & Air Force Maui Optics Site Independent Contractor, 2009
Project: Hokupa'a - extreme wide field adaptive optics test of concept (controlled laboratory bench testing), identified polarimetric anomaly improving performance of system

University of Hawai'i Research Assistant, 2009
Project: Hα emission correction to dust extinction in star-forming regions of galaxies (performed observations and data reduction)

Institute for Astronomy Akamai Intern, 2008
Project: Designed, built, and tested cryogenics for InfraRed Imaging System (IRIS); provided software updates to the filter wheel system (C++)

Gemini North Research Assistant, 2007
Project: Spectra of active stars (performed data reduction and analysis)

COMPUTATIONAL SKILLS

MOOC development, Python, FORTRAN, MATLAB, Shell scripts, IDL, C++ , Mathematica, Unix management & remote access (SSH, etc.), LaTeX, LabView, CADs, Microsoft Office Suite, Adobe Suite, supercomputing

TECHNICAL EXPERIENCE

• radiative transfer code development (transit, reflected polarimetry, BPDFs), modeling and interpretation for transit, secondary eclipse and reflected radiation (polarized and non-polarized)
• contributed to code development for transit and polarized reflected light (most familiar: VSTAR and SMART)
• climate (and photochemical) modelling (most familiar: ATMOS)
• instrument technology (conception and development, build, test: polarimeter, adaptive optics, IR imager, cryogenics)
• complex data analysis from disparate data sets (e.g. ground based, satellite and space based)
• data reduction (spectra (Gemini), photometry (Gemini), aperture polarimetry)
• computer repair & database management (undergrad. employment)
• observation (on-site and remote access): AAT:IRIS2 (Infrared photometry), HIPPI (aperture polarimetry); U. Hawaii 2.2 meter: WFGS2 (grism spectrograph)

Skill improvement
Lorentz Workshop (invite)
(Direct Imaging of Exoplanets with Polarimetry) Leiden, Netherlands 2019
TESS Hackathon
(TESS data redux and analysis) Seattle, USA 2019
UW AB Postdoc Writing Retreat
(Professional scientific writing tutorial Prof. Dalcanton) Seattle, USA 2019
UW Astrobiology Field Trip
(geology, paleo, extremophiles; special project Nanopore Genomics) Death Valley, USA 2018
ELSI Winter School (competitive entry)
(genetics, evo-devo, geophysics; special project Extremophile Metagenomics) Tokyo, Japan 2018
Writing Workshop (ECR) Toowoomba, Australia 2014
Data processing workshop (photometry and spectrometry) North Ryde, Australia 2013
Python workshop Brisbane, Australia 2012
ASA Winter schools (proposal writing, obs. techniques, Earth science, etc.) Australia 2012-15
Akamai Intern School (competitive entry; courses on optics, electronics, etc.) Hilo, Hawai'i 2008
Genetics and Evolution Women's School Shoreline, Washington 2003

TEACHING & MENTORSHIP

Guest Lecturer, graduate level professional development course UW 2020
Primers on Astronomy and Computation/Programming for incoming Astrobiology grads UW 2019
Student: Ilyana Guez, Undergraduate research (*Polarimetry of clouds on super Earths*) UW 2018-19
Guest Lecturer, graduate level astrobiology course University of Washington 2018
Principal Instructor, Astrobiology colloquium University of Washington 2018
Teaching Assistant *Intro. Astronomy & Search for Life* UNSW Australia 2013-14
Online course development (MOOC), *Intro. Astronomy & Search for Life* UNSW Australia 2013
Outreach Developer, workshops on air pressure, aliens, and light UNSW Australia 2012-16
Lab Assistant, *Introduction to Physics Lab* UNSW Australia 2013
Department Tutor, Introductory physics and astronomy courses University of Hawai'i Hilo 2008
Guest Lecturer & course development, *Introduction to Electromagnetism* University of Hawai'i Hilo 2008

Skill improvement

SafeZone (LGBTQ+) training	University of Washington 2019
Negotiations workshop	University of Washington 2019
Critical Mentoring (Critical Race Theory) workshop	University of Washington 2018
Inclusion in Astronomy (formerly "Women in Astronomy") workshops	Australia 2013-15
Communications minor & elective focus on world cultures and politics	University of Hawai'i Hilo 2008

HONORS & AWARDS

Scholarships

School of Physics Scholarship, UNSW	2014
Postgraduate Scholarship, Australian Centre for Astrobiology	2013, 2014
Postgraduate Research Scholarship Scheme, Postgraduate Research School, UNSW	2013
Competitive Entry to Akamai Internships & ELSI Winter School	2008, 2017
Dean's Scholarship, Northern Arizona University	2006
Excellence in Engineering Scholarship, Northern Arizona University	2006

Grants & telescope time

NASA HabWorlds — 771,945 USD; 2020
PI: Th. Karalidi; SI: K. Bott (I am the primary proposal author)
"Polarization Signatures of Habitable Exoplanets"

NASA NAI CAN — 10,974,065 USD; 2018
PI: V. Meadows; (I am a minor author/editor for this grant)
"The Virtual Planetary Laboratory: Advancing the Search for Life Beyond the Solar System"

8 Successful Observing Proposals on the Anglo-Australian Telescope — Total: 49 nights; 2016-2018
PIs: J. Marshall, D. Cotton, J. Bailey (I am a minor to moderate author/editor for these proposals)

SERVICE

Member Scientific Organising Committee	ExSoCal 2020
Member Scientific Organising Committee "Exoplanet Detection & Characterization..."	COSPAR 2020/1
Session chair "Astrobiology"	AAS 2019
Session chair "Connecting modeling and Observations...Search for Habitable Planets"	AbSciCon 2017
Astrobiology postdoc representative (organized writing course, collaboration events)	UW 2018-19
Member Local Organizing Committee	ASA 2013
Chair of Board of Student Publications	U Hawai'i 2006-07
Multiple Review Panels (e.g. TACs, ROSES, etc.)	2019
Reviewer for A&A	2018, 2019
Reviewer for ApJ	2017
Reviewer for MNRAS	2016

PROFESSIONAL TALKS

Utility of Polarimetry in Studies of Exoplanet Atmospheres and Habitability
Exoclimes Oxford — Aug 2019

The Practicality of Polarimetry for Judging Planetary Habitability
AbSciCon Seattle — Jun 2019

Comparisons of polarized light signatures from terrestrial planets
AAS Seattle — Jan 2019

Polarimetry for Exoplanets
Several similar talks on my research and its context - varying audience backgrounds and duration
Center for Computational Astrophysics (Simons) — Dec 2018

NYU Astronomy Seminar Dec 2018
MIT Exoplanet Tea Talk Nov 2018
Harvard Exoplanets Lunch Talk Nov 2018

Biosignatures in Polarized Light
NASA Ames Exobiology Colloquium Nov 2018

Comparisons of polarized light signatures from terrestrial planets
Several similar talks on my research and its context - varying audience backgrounds and duration
Observatoire de Paris Seminar June 2018
Uni. Grenoble Alpes IPAG Earth Polarimetry Group Meeting June 2018
Uni. Bern Astronomy Seminar June 2018
Delft Uni. of Technology Astronomy Colloquium June 2018
Leiden Observatory Seminar June 2018

Habitability from Polarimetry
ABC (U Tokyo) Meeting on Origin of Life Jan 2018

Habitability from Polarimetry
Universidad de Chile Astronomy Seminar Dec 2016

Promise of Polarimetry for Habitability Measurements and Biosignatures
Several similar talks on my research and its context - varying audience backgrounds and duration
Berkeley CIPS Seminar April 2017
NASA JPL SVCP (PS) Seminar April 2017
AbSciCon April 2017
UW Astronomy Colloquium May 2017
UW Astrobiology Colloquium May 2017

Exoplanet Polarimetry
AAS Winter Meeting Jan 2016

New Measurements of Polarized Light from Exoplanets
Astronomical Society of Australia ASM July 2015

Measurements of Polarized Light from Exoplanets with HIPPI
4th Australian Exoplanet Workshop Dec 2014

Deuterium on Uranus
Australian Space Research Conference Sept 2014

Polarized Light from Exoplanet Atmospheres
Astronomical Society of Australia ASM July 2014

Emission and Transmission Spectroscopy of HD 189733b
3rd Australian Exoplanet Workshop Dec 2013

A VSTAR Model of the Atmosphere of the Hot Jupiter HD 189733b
Australian Space Science Conference Oct 2013

VSTAR Models of HD 189733b
Astronomical Society of Australia ASM July 2013

VSTAR Models of a Hot Jupiter
Australian Astrobiology Conference July 2013

VSTAR Models of the Near-IR Spectrum of Uranus
Australian Space Science Conference Sept 2012

PUBLIC TALKS

Science in Sci-Fi Panel
GeekGirlCon, Seattle, WA, USA 2019

Exoplanets and Astrobiology

Table Mountain Star Party, Okanogan Valley, WA, USA 2019

Science of Mass Effect
Strange New Worlds Podcast, Seattle, WA, USA 2019

Astrobiology in Videogames
Astronomy on Tap, Seattle, WA, USA 2019

Astrobiology
Everett Astronomical Society, Everett, WA, USA 2019

Living in Space and on Other Worlds
Seattle Hill Elementary, Everett, WA, USA 2018

Boozy Astrobiology: Is there Life on Bars?
Ada's Bookstore "NightLab", Seattle, WA, USA 2018

Updates on Polarized Aliens
Astronomy on Tap Anniversary, Seattle, WA, USA 2018

Habitability Polarimetry
Olympic Astronomical Society Banquet, Seattle, WA, USA 2018

Planetary Polarimetry
Astronomy on Tap, Seattle, WA, USA 2017

Exoplanet Habitability
Olympic Astronomical Society, Bremerton, WA, USA 2017

Exobiology and Exoplanets
Coupeville Middle School (Terry Welch 8th grade science courses), Coupeville, WA, USA 2016

Exoplanet Polarimetry
Island County Astronomical Society, Oak Harbor, WA, USA 2016

Finding Solaris (remote sensing and exoplanet weather)
Astronomical Society of NSW, Marsfield, Australia 2014

Planetary Transits
Transit of Venus Festival, UNSW Sydney, Australia 2012

REFERENCES

Prof. Vikki Meadows, postdoc advisor, VPL PI
meadows@uw.edu; +1 (206) 543 0206

Prof. Stephen Kane, postdoc advisor
skane@ucr.edu; +1 (626) 421 9054

Prof. Jeremy Bailey, PhD thesis advisor and head of HiPPI group
j.bailey@unsw.edu.au; +61 (2) 9385 5588

Dr. Mary (Niki) Parenteau, collaborator
mary.n.parenteau@nasa.gov; +1 (503) 816 2482

Dr. David Crisp, collaborator
david.crisp@jpl.nasa.gov; +1 (818) 354 2224

Dr. William Sparks, collaborator
wsparks@seti.org; +1 (443) 244 3332

PUBLICATIONS

Peer-Reviewed Scientific Journal Papers

1. Physically predicted polarimetric phase curves of hot Jupiter exoplanets including cloud effects
   Bott, Kimberly; Bailey, Jeremy; Kedziora-Chudczer, Lucyna; Meadows, Victoria, in prep.
2. The polarization of habitable and non-habitable terrestrial planets
   Bott, Kimberly; Meadows, Victoria; Guez, Ilyana; Linkowski, Andrew; Bailey, Jeremy; Kedziora-Chudczer, Lucyna; in prep.
3. Distinguishing between super Earth and mini Neptune scenarios with polarimetry
   Bott, Kimberly; Guez, Ilyana; Meadows, Victoria; Bailey, Jeremy; Kedziora-Chudczer, Lucyna; in prep.

4. Polarimetric and Radiative Transfer Modelling of HD 172555's Debris Disc
   Marshall, J.; Cotton, D.V.; Scicluna, P.; Bailey, J.; Kedziora-Chudczer, L.; **Bott, K.**; Submitted to MNRAS
5. Spectropolarimetry of Primitive Phototrophs as Global Surface Biosignatures
   Sparks, W.B., Parenteau, M.N., Blankenship, R.E., Germer, Th.A., Patty, C.H.L., **Bott, K.M.**, Telesco, Ch.M., Meadows, V.S.; Submitted to Astrobiology
6. Towards an improved methane D/H ratio for Neptune
   Cotton, Daniel; **Bott, Kimberly**; Kedziora-Chudczer, Lucyna; Bailey, Jeremy; Karamiqucham, Behrooz; Submitted to Icarus
7. Mapping the Interstellar Magnetic Field Around the Heliosphere with Polarized Starlight
   Frisch, P.C.; Berdyugin, A.B.; Piirola, V.; Cole, A.A.; Hill, K.; Harlingten, C.; Magalhaes, A.M.; Seriacopi, D.B.; Ferrari, T.; Ribeiro, N.L.; Wiktorowicz, S.J.; Cotton, D.V; Bailey, J.; Kedziora-Chudczer, L.; Marshall, J.P.; **Bott, K.**; Santos, F.P.; Heiles, C.; McComas, D.J.; Funsten, H.O.; Schwadron, N.A.; Livadiotis, G.; Redfield, S.; Submitted to ApJ

8. The wavelength dependence of interstellar polarization in the Local Hot Bubble (2019)
   Cotton, Daniel; Marshall, Jonathan P.; Frisch, Priscilla, C.; Bailey, Jeremy; Kedziora-Chudczer, Lucyna; **Bott, Kimberly**; Wright, Duncan J.; Wyatt, Mark C.; MNRAS, Volume 483, Issue 2, pp. 3636–3646
9. The Rotationally Modulated Polarization of ksi Boo A (2019)
   Cotton, Daniel V.; Evensberget, Dag; Marsden, Stephen C.; Bailey, Jeremy; Kedziora-Chudczer, Lucyna; Carter, Bradley D.; **Bott, Kimberly**; Zhao, Jinglin; the BCOOL Collaboration; MNRAS, Volume 483, Issue 2, pp. 1574–1581
10. Polarized radiative transfer in planetary atmospheres and the polarization of exoplanets (2018)
    Bailey, J.A.; Kedziora-Chudczer, L.; **Bott, K.M.**; MNRAS, Volume 480, Issue 2, pp. 1613–1625
11. The polarization of the planet-hosting WASP-18 system (2018)
    Bott, Kimberly; Bailey, Jeremy; Cotton, Daniel; Kedziora-Chudczer, Lucyna; Marshall, Jonathan; Meadows, Victoria; AJ, Volume 158, Issue 6, Article Id 293
12. Observing Oceans in Tightly Packed Planetary Systems: Perspectives from Polarization Modeling of the TRAPPIST-1 System (2018)
    Kopparla, Pushkar; Natraj, Vijay; Crisp, David; **Bott, Kimberly**; Swain, Mark R.; Yung, Yuk L.; AJ, Volume 156, Issue 4, Article Id 143
13. Polarized Radiative Transfer in Planetary Atmospheres and the Polarization of Exoplanets (2018)
    Bailey, Jeremy; Kedziora-Chudczer, Lucyna; **Bott, Kimberly**; MNRAS, Volume 480, Issue 2, p. 1613-1625

14. Polarization due to rotational distortion in the bright star Regulus (2017)
Cotton, Daniel V.; Bailey, Jeremy; Howarth, Ian D.; **Bott, Kimberly**; Kedziora-Chudczer, Lucyna; Lucas, P.W.; Hough, J.H.; Nature Astronomy, Volume 1, p. 690-696
15. The intrinsic and interstellar broadband linear polarisation of nearby FGK dwarfs (2017)
Cotton, Daniel V.; Marshall, Jonathan; Bailey, Jeremy; Kedziora-Chudczer, Lucyna; **Bott, Kimberly**; MNRAS, Volume 467, Issue 1, p. 873-897
16. Erratum: The linear polarisation of Southern bright stars measured at the parts-per-million level (2016)
Cotton, Daniel V.; Bailey, Jeremy; Kedziora-Chudczer, Lucyna; **Bott, Kimberly**; Lucas, P.W.; Hough, J.H.; Marshall, Jonathan P.; MNRAS, Volume 460, Issue 1, p. 18-18
17. Polarisation Measurements of Hot Dust Stars in the Local Interstellar Medium (2016)
Marshall, J.P.; Cotton, D.V.; **Bott, K.**; Ertel, S.; Kennedy, G.M.; Wyatt, M.C.; del Burgo, C.; Absil, O.; Bailey, J.; Kedziora-Chudczer, L.; ApJ, Volume 825, Issue 2, Article id 124
18. The Polarisation of HD 189733 (2016)
Bott, Kimberly; Bailey, Jeremy; Kedziora-Chudczer, Lucyna; Cotton, Daniel; Lucas, Phillip; Marshall, Jonathan; Hough, James; MNRAS Letters, Volume 459, Issue 1, p.L109-L113
19. An optical transmission spectrum of the giant planet WASP-36 b (2016)
Mancini, L.; Kemmer, J.; Southworth, J;. **Bott, K.**; Molliere, P.; Ciceri, S.; Chen, G.; Henning, Th.; MNRAS, Volume 459, Issue 2, p.1393-1402
20. Physical Properties of the Planetary Systems WASP-45 and WASP-46 from simultaneous multi-band photometry (2016)
Ciceri, S.; Mancini, L.; Southworth, J.; Lendl, M.; Tregloan-Reed, J.; Brahm, R.; Chen, G.; D'Ago, G.; Dominik, M.; Figuera Jaimes, R.; Galianni, P.; Harpsøe, K.; Hinse, T.C.; Jørgensen, U.G.; Juncher, D.; Korhonen, H.; Liebig, C.; Rabus, M.; Bonomo, A.S.; **Bott, K.**; Henning, Th.; Jordàn, A.; Sozzetti, A.; Alsubai, K.A.; Andersen, J.M.; Bajek, D.; Bozza, V.; Bramich, D.M.; Browne, P.; Calchi Novati, S.; Damerdji, Y.; Diehl, C.; Elyiv, A.; Giannini, E.; Gu, S-H.; Hundertmark, M.; Kains, N; Penny, M.; Popovas, A.; Rahvar, S.; Scarpetta, G.; Schmidt, R.W.; Skottfelt, J.; Snodgrass, C.; Surdej, J.; Vilela, C.; Wambsganß, J.; Wang, X-B.; Wertz, O.; 2016 MNRAS, Vol. 456, Issue 1, p 990-1002.
21. The Linear Polarisation of Southern Bright Stars Measured at the Parts-per-Million Level (2016)
Cotton, Daniel; Bailey, Jeremy; Kedziora-Chudczer, Lucyna; **Bott, Kimberly**; Hough, James; Lucas, Phillip; Marshall, Jonathan; MNRAS, Vol. 455, Issue 2, p 1607-1628.
22. A High-Sensitivity Polarimeter using a Ferro-Electric Liquid Crystal Modulator (2015)
Bailey, Jeremy; Kedziora-Chudczer, Lucyna; Cotton, Daniel; **Bott, Kimberly**; Hough, James; Lucas, Phillip; 2015 MNRAS, Vol. 449, Issue 3, p.3064-3073.

Peer-Reviewed Conference Proceedings

23. Atmospheric modeling for Neptune's Methane D/H Ratio - Preliminary Results
Cotton, Daniel; Kedziora-Chudczer, Lucyna; **Bott, Kimberly**; Bailey, Jeremy; 2015 Proceedings of 14th Australian Space Research Conference.
24. VSTAR modeling of the Infrared Spectrum of Uranus
Bott, Kimberly; Kedziora-Chudczer, Lucyna; Bailey, Jeremy; 2013 Proceedings of 13th Australian Space Research Conference.
25. Commissioning of the Infrared Imaging Survey (IRIS) System
Hodapp, Klaus; Chini, Rolf; Reipurth, Bo; Murphy, Miguel; Lemke, Roland; Watermann, Ramon; Jacobson, Shane; Chonis, Taylor; Dement, Denny; Terrien, Ryan; **Bott, Kimberley**; Provence, Sydney; 2010 Proceedings of the SPIE, Vol. 7735, id. 77351A.