Joshua Eli Goldston Peek
Curriculum Vitae

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Berkeley, CA 94708
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Personal

Born: 2 April 1979, Joshua Eli Goldston
Citizenship: U.S.

Education

University of California, Berkeley — Jan. 2004 – May 2008
Berkeley CA, USA
Ph.D. in Astronomy
Dissertation: "High-Velocity Clouds and the Galactic Arecibo L-Band Feed Array Survey in HI"
Thesis Advisor: Carl E. Heiles

University of California, Berkeley — Sep. 2002 – Jan. 2004
Berkeley CA, USA
M.S. in Astronomy

Harvard University — Sep. 1997 – May 2001
Cambridge MA, USA
B.A. in Physics and Astronomy & Astrophysics, with Honors

Honors

Bruno Rossi Fellowship (declined) 2001
John Harvard Scholar 1997-2001

Teaching, Employment and Outreach

Postdoctoral Fellow — Fall 2008-present
Space Sciences Laboratory, UC Berkeley

Founder, Instructor — Summer 2008
UC Berkeley, First GALFA-HI Summer school

Founder, Organizer — Fall 2003-Fall 2006
UC Berkeley Astronomy Department - Meher School Annual Astronomy Day

Graduate Student Instructor — Fall 2003
UC Berkeley, Stellar Physics

Consultant — Summer 2003
Gordon & Betty Moore Foundation critical review of CELT 30m telescope

Graduate Student Instructor — Spring 2003
UC Berkeley, Radio Astronomy Laboratory

Graduate Student Instructor — Fall 2002
UC Berkeley, Introductory Astronomy

Public Liaison — Fall 2002-Fall 2007
UC Berkeley Astronomy Department

Organizer — Spring 2002
Smithsonian Astrophysical Observatory AstroDay 2002

Full-time Operations and Engineering Assistant — Fall 2001 - Spring 2002
Smithsonian Astrophysical Observatory Sub-Millimeter Array

Student Instructor — Fall 2000 – Spring 2001
Harvard University Physics Question Center

Undergraduate Research Assistant — Summer 1998, 1999, 2000
Sloan Digital Sky Survey at Princeton University

Allocated Telescope Time

VLA — Summer 2008
24 hours as PI for studies of anomalous Galactic HI.

Keck Observatory — Spring 2007
2 nights as a Co-PI for high-resolution stellar spectroscopy.

ATA Observatory — Fall 2007
16 hours of observing time as PI for Galactic 21-cm studies.

Arecibo Observatory — Spring 2003 - Fall 2006
Over 100 hours of observing time as PI and over 1000 hours as Co-I for Galactic 21-cm line studies.

BIMA Observatory — Summer 2005 - Spring 2006
8 hours of observing time as PI for a multi-wavelength study of the Galactic center.

VLBA — Summer 2005 - Spring 2006
152 hours of observing time as Co-I for astrometric studies of active stars.

Selected Conference Proceedings

Invited Talk: High-Velocity Clouds and the Milky Way's Halo
Peek, J. E. G.
Radio Astronomy Laboratory 50th Anniversary Conference, November 2008

Invited Talk: Hitting the Bulls-eye: Constraints on the Galaxys Ongoing Accretion and Halo
Peek, J. E. G.
Galaxy Formation and Evolution as Revealed by Cosmic Gas, April 2008

Poster: Hidden Galactic Accretion: The Discovery of Low-Velocity Halo Clouds
Peek, J. E. G., Putman, M. E., Sommer-Larsen, J., Heiles, C. E., Stanimirovic, S., Korpela, E., Gibson, S. & Douglas, K.
AAS, January 2008

Poster: The Galaxy's Secret Accretion
Peek, J. E. G., Putman, M. E., Sommer-Larsen, J., Heiles, C. E. & Douglas, K.
Formation and Evolution of Galaxy Disks, October 2007

Talk: The GALFA-HI Survey & Science
Peek, J. E. G., Stanimirovic, S., Putman, M. E., Heiles, C. E., Korpela, E., Gibson, S. & Douglas, K.
GALFACTS/TOGS2, February 2007

Poster: Maps of the Galaxy in HI with GALFA
Peek, J. E. G., Stanimirovic, S., Putman, M. E., Heiles, C. E. & Douglas, K.
Mapping the Galaxy and Nearby Galaxies, August 2006

Talk: GALFA-HI : The First 1000 Square Degrees
Goldston, J. E.
AAS, January, 2005.

Talk: Small scale structures in HI line wings observed at Arecibo
Goldston, J. E.
Diffuse Matter in the Galaxy: Observations Confront Theory, August, 2004.

Talk: Mapping and GALFA
Goldston, J. E.
The 3rd GALFA Consortium, August, 2004.

Talk: Optimized Mapping Modes and Algorithms for ALFA
Goldston, J. E.
AAS, January, 2004.

Public Lectures

Our Spiral Identity
Tri-Valley Stargazers Association, August, 2008

Galactic Recycling
East Bay Astronomical Society, August, 2008

Schools

BIMA Summer School
Summer, 2002
Hat Creek, California, USA

References

Professor Carl E. Heiles
University of California, Berkeley, Department of Astronomy
Berkeley CA 94720-3411
(510) 642-4510, heiles@astro.berkeley.edu

Professor Mary E. Putman
University of Michigan, Ann Arbor, Department of Astronomy
Ann Arbor MI 48109
(734) 764-3408, mputman@umich.edu

Professor Christopher McKee
University of California, Berkeley, Department of Physics
Berkeley CA 94720-3411
(510) 642-0805, mckee@astro.berkeley.edu

Publications

Hitting the Bullseye: The Radial Profile of Accretion and Star Formation in the Milky Way
Peek, J.E.G. *ApJ, submitted*

The GALFA-HI Survey: Techniques
Peek, J.E.G., Heiles, Carl, *astro-ph/0810.1283*

The Disruption and Fueling of M33
Putman, M. E., **Peek, J.E.G.**, [8 authors], *ApJ, submitted*

Low-Velocity Halo Clouds
Peek, J.E.G., Putman, M. E., Heiles, Carl, Douglas, K. *ApJ, in press*

Ongoing Galactic Accretion: Simulations and Observations of Condensed Gas in Hot Halos
Peek, J.E.G., Putman, M. E., Sommer-Larsen, Jesper,2008, *ApJ*, 674, 227

A Parallactic Distance of 389 +24 -21 Parsecs to the Orion Nebula Cluster from Very Long Baseline Array Observations
Sandstrom, Karin M., **Peek, J.E.G.**, Bower, Geoffrey C., Bolatto, Alberto D., Plambeck, Richard L., 2007, *ApJ*, 667, 1161

Reconstructing Deconstruction: High-Velocity Cloud Distance through Disruption Morphology
Peek, J.E.G., Putman, M. E., McKee, Christopher F., Heiles, Carl, Stanimirovic, Snezana, 2007, *ApJ*, 656, 907

First Results from the Arecibo Galactic H I Survey: The Disk/Halo Interface Region in the Outer Galaxy
Stanimirovic, Snezana, Putman, Mary, Heiles, Carl, **Peek, J.E.G.** [10 authors], 2006, *ApJ*, 653, 1210

A Cold Nearby Cloud inside the Local Bubble
Meyer, David M., Lauroesch, J. T., Heiles, Carl, **Peek, J.E.G.**, Engelhorn, Kyle, 2006, *ApJL*, 650, 67

The Sloan Digital Sky Survey monitor telescope pipeline
Tucker, D. L., [11 authors], **J. Goldston**, [20 authors], 2006, *AN*, 327, 821

Synchrotron Radiation from Radiatively Inefficient Accretion Flow Simulations: Applications to Sagittarius A*
Goldston, Joshua E., Quataert, Eliot, Igumenshchev, Igor V, 2005, *ApJ*, 621, 785

First simultaneous NIR/X-ray detection of a flare from Sgr A*
Eckart, A., [12 authors], **Goldston, Joshua E.**, 2004, *A&A*, 427, 1

How Mira Variables Change Visual Light by a Thousandfold
Reid, M. J., **Goldston, J. E.**, 2002, *ApJ*, 568, 931

Candidate RR Lyrae Stars Found in Sloan Digital Sky Survey Commissioning Data
Ivezic, Zeljko, **Goldston, Josh**, [40 authors], 2000, *AJ*, 120, 963

Optimal geometry for neutral-beam-based optical diagnostics in tokamaks
Goldston, J. E., Goldston, R. J., 1995, *RSI*, 66, 5638

Research

SDSS

Sloan Digital Sky Survey Monitor Telescope Pipeline — Summer 1998
with Ivezic, Z., Knapp, J.
Investigated errors in the SDSS monitor telescope pipeline.

First Sloan Digital Sky Survey variable star project — Summer 1999
with Ivezic, Z., Knapp, J.
Investigated variable stars in the first overlapping stripes of the nascent SDSS project.

First Sloan Digital Sky Survey supernova project — Summer 2000
with Ivezic, Z., Knapp, J.
Searched for supernovae in the SDSS.

Harvard and SMA

Long-period variable star atmospheres with TiO opacity — Fall 2000-Spring 2001
with Reid, M.
Built model atmospheres capable of reproducing Mira-like visible light fluctuations.

Temperature Fluctuations in the SMA Antennae — Fall 2001-Spring 2002
with Chitwood, B.
Designed a prototype temperature sensing harness for SMA Antennae to model pointing errors to due thermal expansion.

Berkeley - Sgr A* and Relativity

Synchrotron radiation from simulations of RIAFs — Fall 2002- Fall 2003
with Quateart, E.
Studied simulations of radiatively-inefficient accretion flows and compared to observations of the radio variability of Sgr A*.

Observations of Sgr A* with BIMA — Summer 2002
with Bower, G.
Examined the fluctuations of Sgr A* in the millimeter with BIMA, during a multi-frequency monitoring campaign.

Investigation of microlensing with coherent radio signals — Summer 2005
Developed a plan of research to study the effects of the microlensing of quasars in radio autocorreleations.

Berkeley - Arecibo Technical

Development of 'Typewriter' and 'Basketweave' scanning techniques at Arecibo — Spring 2004
with Heiles, C.
Made precursor observations with Arecibo's L-band wide receiver to determine the efficacy of different interlaced scanning patterns.

Development of optimal 'Basketweave' scanning patterns with ALFA — Fall 2004
with Heiles, C.
Found the optimal modes of observing with interlaced scans using ALFA.

Development of GALFA-HI observing codes and techniques — Fall 2004 - Spring 2006
with Heiles, C., Stanimirovic, S.
Designed user-accesible interfaces for GALFA-HI observation scripting and GALFA-HI remote observing protocols.

Development of GALFA-HI data reduction pipeline Fall 2004 - Present
with Heiles, C., Robishaw, T.
Designed and implemented GALFA-HI data reduction pipeline (versions 1.0 through 2.3), including baseline ripple reduction, RFI mitigation, receiver gain calibration and data gridding.

Berkeley - HVCs and the Halo

Investigation of VHVC stripping in the Galactic halo Fall 2005 - Summer 2006
with Heiles, C., McKee, C., Putman, M.
Designed new method for finding HVC distances based on maps of halo interactions from GALFA-HI.

Constraining the structure of the Galactic halo Spring 2006 - Summer 2006
with McKee, C., Fang, T.
Built simplified model of the density structure of the Galactic halo in light of new X-ray observations and ISM pressure constraints.

Study of HVCs in a TreeSPH simulation of galactic formation Fall 2006 - Summer 2007
with Putman, M., Sommer-Larsen,J.
Compared the population of known HVCs to simulations containing condensed halo clouds to determine the validity of this accretion model.

The distance to complex C Spring 2007 - Summer 2007
with Thom, C., Heiles, C., Peek, K., Putman, M., Bower, G.
Determined the distance to HVC Complex C using high-resolution optical spectroscopy at Keck and the ATA.

Study of Low-Velocity Halo Clouds Summer 2007 - present
with Putman, M., Heiles, C.
Used the GALFA-HI database and IRAS to discover HVC analogs at low LSR velocity.

Modeling of the radial profile of Galactic accretion Spring 2008 - present
Developed a model of the radial profile of Galactic accretion to compare with observations of Galactic star formation.

Berkeley - High-latitude HI

Investigation of high-latitude line wing features Summer 2004
with Heiles, C.
Investigated low-velocity line-wing features found in the Leiden-Dwingaloo survey with Arecibo.

Investigation of high-latitude 'needle-features' in GALFA-HI Summer 2007 - present
with Heiles, C.
Found a large number of straight, high-aspect ratio, dim HI features in GALFA-HI and compared to starlight polarization at high latitude.

Investigation of the cold leo cloud with GALFA-HI and Keck Spring 2007 - Fall 2008
with Heiles, C., Peek, K., Marcy, G., Meyer, D.
Determined distance to a nearby cold cloud using high-resolution optical spectroscopy.

Study of Low-Velocity Dwarf Galaxy Candidates in GALFA-HI Fall 2007 - present
with Putman, M., Grcevich, J.
Found candidate Local-group dwarf Galaxies and investigated with SDSS, Magellan, VLA.

Study of Galactic Hyper-Pressure clouds from GALFA-HI Fall 2007 - present
with Heiles, C.
Found mysterious over-pressurized clouds and investigated with the VLA.