

Zahed Wahhaj

Curriculum Vitae

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Department of Physics & Astronomy
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Personal: Born 4 Dec 1974.

Education:

PhD Physics: 2005 University of Pennsylvania (USA)

BS Physics: 1997 University of Pennsylvania (USA)

BSE Computer Science & Engineering: 1997 University of Pennsylvania (USA)

Research focus: Origin and evolution of planetary systems

Current major projects:

- Observing and modeling circumstellar dust around young stars (49 Cet, HR 4796A, Beta Pictoris).
- Analysis of mid-infrared excess of Weak-line TTauri stars, c2d SPITZER Legacy Team Research.
- Search for companions around nearby stars using the 2MASS catalog and the NStars database at NAU.
- Development of the Young Stars database for analysis of SPITZER data obtained by the c2d Legacy Team.

Telescope experience:

- Keck I and II Telescopes, Mauna Kea, Hawaii: Long Wavelength Spectrometer, MIRLIN (mid-infrared imaging and spectrophotometry)
- NASA's Infrared Telescope Facility (IRTF), Mauna Kea, Hawaii: Spectroscopy with SpeX.
- Lowell Observatory 31" Telescope, Mesa, Arizona: NURO CCD.

Astronomy Technical Experience:

Programming Experience: (17+ yrs).

Languages: C++, Java, Fortran, IDL, Perl, PHP, SQL, etc.

- Mid-Infrared Data reduction and code development using IDL.
- Image Processing using IRAF.
- Dust Emission Modeling for Bayesian Analysis: C++ package development .
- Extensive MySQL/PHP code development for NStars and YStars databases at NAU.
- Java Dust Emission Modeling Tools for online use.

Positions:

Research Specialist, Northern Arizona University (2002-2005)

Post Doctoral Researcher, Northern Arizona University (2005-)

Teaching Experience:

Mentor for masters and undergraduate students in Astronomy Research, Northern Arizona University, 2002-.

Mentor for undergraduate students in the Planetary Origins Research Group, Univ. Pennsylvania, 1999-2002.

Teaching Assistant for Life in the Universe (Astro 6), 2002, UPenn.

Teaching Assistant for Introduction to Mechanics (Phys 150), Fall 1999, UPenn.

Teaching Assistant for Introduction to C programming (CSE 110), Fall 1998, UPenn.

Teaching Assistant for Electricity and Magnetism (PHYS 151), Fall & Spring 1997, UPenn.

Teaching Assistant for Introduction to Computer Architecture (PHYS 240), Fall 1998, UPenn.

Memberships: American Astronomical Society.

Current Mission Involvement:

Affiliated with the Cores to Disks SIRTf (Space Infrared Telescope Facility) Legacy Science team.

Popular press:

Articles about my work have appeared in:

Sky & Telescope, "A Planet Found Through Asteroid Belts ?", October 2004.

Science News, "Dusty Disks May Reveal Hidden Worlds", May 2002.

Sky & Telescope, "A Hidden Planet for Beta Pictoris ?", April 2002.

And also in CNN.com Astronomy.com, Space.com, etc.

Publications

Refereed Journals:

[Wahhaj Z., Koerner D.W., Backman D.E., Werner M.W., Serabyn E., Ressler M.E. and Lis D.C., "The Radial Distribution of Dust Grains around HR 4796A", The Astrophysical Journal, January 2005.](#)

[Wahhaj Z., Koerner D.W., Ressler M.E., Werner M.W., Backman D.E and Sargeant A.I., "The Inner Rings of Beta Pictoris", The Astrophysical Journal Letters, January 2003.](#)

[Wahhaj Z., Koerner D.W. and Sargeant A.I., "High-Resolution Imaging of the Dust Disk around 49 Ceti", The Astrophysical Journal Letters, In Preparation.](#)

[Young K.E., Harvey P.M., Brooke T.Y., Chapman N., Kauffmann J., Bertoldi F., Lai S., Alcalá J., Bourke T.L., Spiesman W., Allen L.E., Blake G.A., Evans N.J. II, Koerner D.W., Mundy L.G., Myers P.C., Padgett D.L., Salinas A., Sargent A.I., Stapelfeldt K.R., Teuben P., van Dishoeck E.F., Wahhaj Z., "The Spitzer c2d Survey of Large, Nearby, Interstellar Clouds. I. Chamaeleon II Observed with MIPS", The Astrophysical Journal, July 2005.](#)

[Young C.H., Jørgensen J.K., Shirley Y.L., Kauffmann J., Huard T., Lai S., Lee C.W., Crapsi A., Bourke T.L., Dullemond C.P., Brooke T.Y., Porras A., Spiesman W., Allen L.E., Blake G.A., Evans N.J. II, Harvey P.M., Koerner D.W., Mundy L.G., Myers P.C., Padgett D.L., Sargent A.I., Stapelfeldt K.R., van Dishoeck E.F., Bertoldi F., Chapman N., Cieza L., DeVries C.H., Ridge N.A., Wahhaj Z., "A 'Starless' Core that Isn't: Detection of a Source in the L1014 Dense Core with the Spitzer Space Telescope", The Astrophysical Journal, July 2005.](#)

Conference Presentations:

"Thermal Infrared Imaging of Rings and Gaps in Debris Disks" A poster presentation at DEBRIS DISKS AND THE FORMATION OF PLANETS: A SYMPOSIUM IN MEMORY OF FRED GILLETT, April 2002, Tucson, AZ.

"High-resolution Imaging of the Disk around P ictoris at $\lambda = 8.8, 12.5, \text{ and } 17.9 \mu\text{m}$ " A poster presentation at the American Astronomical Society, 199th AAS Meeting, January 2002, Washington, DC.

"Exo-zodiacal Dust in the HR 4796A System" A talk at the American Astronomical Society, 195th AAS Meeting, January 2000, Atlanta, GA.