

## **Jared ‘Anand’ H. Crossley**

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### **Employment**

*Scientific Associate - Data Analyst* 2011 June – present  
National Radio Astronomy Observatory (NRAO) / North American ALMA Science Center (NAASC)

User and scientific support for the NAASC including: resolving user-submitted questions using online helpdesk user support system; ALMA data reduction pipeline operation; hardware and software testing; documentation review and maintenance.

*Scientific Associate* 2007 October – 2011 June  
National Radio Astronomy Observatory (NRAO)

Scientific and software support for survey of Very Large Array raw data archive. Software development and scientific support for NRAO Virtual Observatory initiatives. Software development for *Common Astronomy Software Applications* radio interferometric data reduction suite.

*Data Analyst* 2006 September – 2007 September

Independent contractor for the National Radio Astronomy Observatory. Socorro, NM  
Produced images of Very Large Array raw archive data, to be shared with astronomical community, using existing software pipelines. Assessed and maintained image quality. Created and maintained user-level documentation of software pipeline.

*Graduate research assistant* 2004 January – 2006 May  
New Mexico Tech, Physics Department, Pulsar group. Socorro, NM

Observed pulsars at Arecibo radio observatory using high-time resolution data acquisition system, reduced and analyzed data, and published results; wrote FORTRAN, C++, and IDL code to process and analyze data; maintained large storage media and archive of observational data.

*Summer research assistant* 2003 June – August  
Carnegie Institution of Washington, Dept. of Terrestrial Magnetism. Washington, D.C.

Constructed and analyzed simulations to test the stability of a five-body planetary system thought to exist around a nearby star; automated simulations with Unix shell scripting.

*Physics Laboratory Instructor* 2003 January – May  
New Mexico Tech, Physics Department. Socorro, NM  
Taught introductory physics laboratory; tutored introductory physics students in weekly help-session; voluntarily developed astronomical laboratory exercise using campus observatory.

*Summer research assistant* 2002 June – August  
National Radio Astronomy Observatory. Socorro, NM  
Used Very Large Array radio interferometry data to image and model the kinematics of an active two-body star system; wrote C and IDL analysis programs. Observed Crab pulsar with Very Long Baseline Array radio interferometer looking for small-scale structure; utilized AIPS software.

*Research Assistant* 2000 May – 2001 May  
Langmuir Laboratory for Atmospheric Research. Socorro, NM.  
Wrote IDL programs to analyze 4-dimensional lightning data. Organized and maintained archive of lightning data.

## **Education**

Master of Science in Physics. New Mexico Institute of Mining and Technology, Socorro, NM. May 2009. Thesis title: *Crab Pulsar Giant Radio Pulses: An Investigation of Microsecond-scale Structure and Dispersion Characteristics*

Bachelor of Science in Physics, emphasis in Astrophysics, minor in Mathematics. New Mexico Institute of Mining and Technology, Socorro, NM. December 2003.

## **Publications**

*Short-Lived Radio Bursts from the Crab Pulsar*,  
Crossley, J. H., Eilek, J. A., Hankins, T. H., Kern, J. S. 2010, *in preparation*

*Web Service Automates Access to Multiple Astronomical Data Sources*,  
Crossley, J. H., DuPlain, R., Radziwill, N. M. 2009, SPIE Newsroom

*Automating Image Import for Google Sky Using Virtual Observatory Tools*,  
Crossley, J. H., DuPlain, R., Radziwill, N. M. 2009, Bulletin of the American Astronomical Society

*NRAO VLA Archive Survey*,  
Crossley, J. H., Sjouwerman, L. O., Fomalont, E. B., & Radziwill, N. M. 2008, SPIE Conf. Series 7016, Observatory Operations: Strategies, Processes, and Systems II

*Echoes of Giant Pulses from the Crab Pulsar*,  
Crossley, J. H., Eilek, J. A., & Hankins, T. H., 2006. Small Ionized and Neutral  
Structures in the Diffuse Interstellar Medium, ASP Conference Series, ed. M. Haverkorn  
& W. M. Goss, 365

*(A complete list of publications and presentations is available at the Web address above.)*

### **Honors and Awards**

First prize for “Outstanding Technology Project” at the National Virtual Observatory  
Summer School, 2008. Awarded in recognition of two-person project, “Google Sky  
Overlay Automation Using Virtual Observatory Tools.”

New Mexico Tech Macey Scholarship, May 2002. Awarded for academic  
accomplishments in the classroom and research laboratory and participation in  
institutional services and co-curricular activities.

Abraham and Esther Brook Award, April 2002. Awarded by the New Mexico Tech  
Physics department to a junior-level student for excellence in physics.

### **Skills & Experience**

Anand has extensive computer programming experience, utilizing languages such as  
Java, Python, IDL, JavaScript, C/C++, FORTRAN, Unix shells, and others.

Anand completed the *Leadership and Management Development Program* through Texas  
Christian University Office of Extended Education in November, 2009.

**References** – available upon request