Vladimir Sudilovsky

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Formal Education

- **Ph.D. candidate in Astrophysics** 2011-present
  Max-Planck-Institut für extraterrestrische Physik, Germany
- **M. Sc. Engineering Physics** 2009 - 2011
  Technical University Munich, Germany
- **B.S. Physics** 2004 - 2008
  Guilford College, NC, USA
- **Graduate** 2004
  Christ School, NC, USA

Professional Experience

- **Software Developer** Munich, Germany
  Max-Planck-Institut *2011 - Present*
  - Sole developer of a web interface for over five years of data collected from the GROND detector. The product allows a user to **query, visualize, and analyze data products, and save these results under their profile**. Written in Django with PostgreSQL backend; server provisioning with Puppet.
  - Created an **automated pipeline to analyze over five years of GROND data**, which includes recording of data quality and synchronization to a web server when selection criteria were met. Written in Python, data analysis implemented with the image processing IRAF package.
  - Implemented software to allow a remote user to **inspect in near real time images produced from an observatory** in Chile with connection speed of < 50KB/s.
  - Maintained three servers located in Chile and Germany used by 10-20 people to analyze large volumes of astronomical data.
- **Consultant** Munich, Germany
  SimScale GmbH *2013*
  - Constructed server provisioning scripts in Puppet over a one-week period for a startup specializing in cloud based CAD analysis. Provisioning included creating an encrypted volume from which to run all web and database processes.
- **Researcher** Munich, Germany
  Max-Planck-Institut *2011 - Present*
  - Determined the spatial clustering properties of two distinct classes of astronomical objects. **Automated image analysis, source extraction and classification** with Python, IRAF, SExtractor, and lePHARE. Computed the two-point correlation function with **Monte-Carlo source population and measurement.** Implementation in Python-numpy.
  - Estimated the fraction of dust obscured quasars missed in the 10 year Sloan Digital Sky Survey by simulating dust along the line of sight to quasars. Integrated results from a **self developed Monte-Carlo routine** based on input distributions of dust and quasar properties.
  - Operator of the GROND imager, mounted on the 2.2m telescope in La Silla Observatory, Chile. Duties include operating the instrument on-site and remotely, coordinating observations with other astronomers, analyzing and interpreting data, and **announcing new discoveries to the astronomical community.**
  - **Participant and contributor to international conferences** held in France, Germany, Italy, the UK, and the USA. Member of the **organizing committee** for the GRB 2012 conference in Munich, which hosted 200 scientists for five days.

Software skills

- Windows, Mac OS X, and Linux operating systems
- Python, JavaScript/jQuery/d3.js
- Django, Flask
- git, virtualenv, Puppet, Vagrant
- SQL, neo4j, Matlab, LaTeX

Language Skills

- Native English
- Intermediate German
- Intermediate Spanish

First Author Publications

Refereed Journal Publications

- Sudilovsky, Greiner, Rau et al. 2013, A&A 552, A143: *Clustering of galaxies around gamma-ray burst sight-lines*
- Sudilovsky, Smith, & Savaglio, 2009, ApJ 699, 56: *Dusty MgII Absorbers: Implications for the Gamma-ray Burst/Quasar Incidence Discrepency*
- Sudilovsky, Savaglio, Vreeswijk et al. 2007, ApJ 669, 741: *Intervening Metal Systems in GRB and QSO Sight Lines: The MgII and CIV Question*

Discovery Announcements

- Sudilovsky, Nicuesa Guelbenzu, Greiner, 2013: *GRB 130408A: GROND detection of the afterglow*
- Sudilovsky & Greiner, 2013: *GRB 130211A: retraction of the afterglow candidate*
- Sudilovsky, Kann, Krühler et al. 2012: *GRB 121027A: GROND confirmation of rebrightening*
- Sudilovsky, Schmidl, Kann et al. 2012: *GRB 120909A: GROND detection of the afterglow*
- Sudilovsky, Klose, Greiner 2012: *GRB 120819A: GROND afterglow confirmation*
- Sudlovsky, Kann, Greiner 2012: *GRB 120815A: GROND afterglow candidate*
- Sudilovsky, Kann, Greiner 2012: *GRB 120722A: GROND detection of the afterglow*
- Sudilovsky, Rau, Greiner 2012: *GRB 120404A: GROND observations show steeply decaying afterglow*
- Sudilovsky, Elliott, Greiner et al. 2012: *GRB 120401A: GROND detection of an optical/NIR afterglow candidate*
- Sudilovsky, Nicuesa Guelbenzu, Greiner 2012: *GROND observations of GRB 120327A*
- Sudilovsky, Nicuesa Guelbenzu, Greiner 2012: *GRB 120324A: GROND observations*
- Sudilovsky, Prinz, Greiner 2012: *GROND observations of GRB 120311A*
- Sudilovsky, Greiner, Rau et al. 2011: *GRB 110825A: GROND observations*
- Sudilovsky, Elliott, Olivares et al. 2011: *GRB 110223B: GROND detection of optical afterglow candidate*