Curriculum Vitæ

Felix Widmann

Education

September 2017 – Today

PhD in Astrophysics
Max Planck Institute for Extraterrestrial Physics Munich, Germany

- Research Topic: *Optimizing GRAVITY for the observation of faint objects and improving radial velocity observations of the galactic center stars*

October 2014 – July 2017

Master of Science in Physics
Ruprecht-Karls-Universität Heidelberg, Germany

- Specialization: Astronomy
- Final Grade: 1.2

February 2015 – August 2015

Exchange Semester in Santiago de Chile
Pontificia Universidad Católica de Chile, Chile

October 2011 – September 2014

Bachelor of Science in Physics
Ruprecht-Karls-Universität Heidelberg, Germany

- Final Grade: 1.7

September 2001 – August 2010

Abitur (High School Diploma)
Goldberg Gymnasium Sindelfingen, Germany

- Final Grade: 1.4
- Majors: German, English, Math, Physics, Chemistry
- Prices for excellent performance in Physics, Maths and Chemistry

Publications & Talks

Widmann, F., Beuther, H., Schilke, P., Stanke, T., 2016, Astronomy & Astrophysics, 589, A29: *"SiO: Not the perfect outflow tracer; Outflow studies of the massive star formation region IRAS 19410+2336"*

Pott, J.-U., Fu, Q., **Widmann F.**, Peter, D., 2016, Proc. SPIE 9907, 99073E:
"P-REx: the piston drift reconstruction experiment"

Talk at the LAM conference: "Wavefront sensing in the VLT/ELT era" in Marseille, 2016
"P-REx: the piston drift reconstruction experiment; Status & outlook"

Research Experience

Master Thesis

"P-REx: A Piston Reconstruction Concept for Large Optical Interferometer"

- Duration: 1 year
- Supervisor: Jörg-Uwe Pott, MPIA; Andreas Quirrenbach, LSW Heidelberg
- Final Grade: 1.0
- Abstract:
  For optical interferometry, one of the main problems is the change in the optical path difference, introduced by the piston variation due to a turbulent atmosphere. With this work, I want to develop a new method to reconstruct the piston variation with real-time data from the adaptive optics system, with the goal to increase the sensitivity of optical interferometers.
  This includes working with and end-to-end simulation of an adaptive optics system based on the Yorick Adaptive Optics Simulator (YAO), and the analysis of simulation and real data with Python.

Bachelor Thesis

"Interferometric Outflow Study of the Massive Star Formation Region IRAS 19410+2336"

- Duration: 6 months
- Supervisor: Henrik Beuther, MPIA
- Final Grade: 1.2
- Abstract:
  This work was based on radio data from a massive star forming region, observed with the Plateau de Bure Interferometer from IRAM. The goal was to use this data to get information about the distribution and properties of the molecular outflows in this region. The main parts of the work were the data reduction with GILDAS and the analysis and interpretation of the gained data. The results were also published in a paper.

Student Job

"Lab Assistant for an Adaptive Optics Vibration Experiment"

- October 2015 – Today
- Max-Planck Institute for Astronomy in Heidelberg
- Tasks:
  The main task is to take care of an optical setup, including an adaptive optics system. This involves the adjustment of the hardware, as well as the adaption of the software in MATLAB.
  Further smaller tasks included the analysis of data from different AO systems, e.g. from LBT-FLAO, ARGOS (LBT), and MACAO (VLTI).

Languages

German	Mother tongue
English	Fluent (TOEFL iBT 116/120)
Spanish	Advanced

Computer Skills

Good Knowledge	Python, LaTeX, MS Office, Windows
Basic Knowledge	Linux, Haskell, C++, Matlab