

Martin Schlecker

PHD CANDIDATE · EXOPLANETEER · STATISTICS ENTHUSIAST

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Education

Max Planck Institute for Astronomy

PHD CANDIDATE IN ASTRONOMY; IMPRS FELLOW

Advisors: Thomas Henning, Hubert Klahr · Expected Graduation: August 2021

Heidelberg, Germany

2017 – Present

European Southern Observatory

MASTER'S THESIS: IRREGULAR VARIABILITY IN KEPLER PHOTOMETRY

Created the Python package `1cps` for transit detection in *Kepler* photometry

Garching, Germany

2015 – 2017

MSc: Technical University of Munich

MASTER OF SCIENCE IN PHYSICS (NUCLEAR, PARTICLE AND ASTROPHYSICS), MARCH 2017

Munich, Germany

2013 – 2017

BSc: Technical University of Munich

BACHELOR OF SCIENCE IN PHYSICS

Thesis: Alignment and Calibration of the X-Ray Telescope ROSI · Max-Planck Institute for Extraterrestrial Physics

Munich, Germany

2010 – 2013

Publications

first author: 3 — refereed co-author: 7 — citations: 98 (2020-10-15) — [ads search](#)

First Author

- 3 **Schlecker, M.**; Pham, D.; Alibert, Y.; Mordasini, C.; Emsenhuber, A. et al., *The Determinism of Global Planet Formation Models*, advanced draft in prep.
- 2 **Schlecker, M.**; Kossakowski, D.; Brahm, R.; Espinoza, N.; Henning, T. et al., *A Highly Eccentric Warm Jupiter Orbiting a Solar-Type Star*, AJ (in press)
- 1 **Schlecker, M.**; Mordasini, C.; Emsenhuber, A.; Klahr, H.; Henning, T. et al., *The New Generation Planetary Population Synthesis (NGPPS). III. Warm super-Earths and cold Jupiters: A weak occurrence correlation, but with a strong architecture-composition link*, A&A (in press)

Refereed Co-Author

- 7 Jahnke, K. et al. (incl. **Schlecker, M.**), *An astronomical institute's perspective on meeting the challenges of the climate crisis*, Nature Astronomy, **4**, 812, 2020
- 6 Bluhm, P. et al. (incl. **Schlecker, M.**), *Precise mass and radius of a transiting super-Earth planet orbiting the M dwarf TOI-1235: a planet in the radius gap?*, A&A, **639**, 2020 (arXiv:2004.06218)
- 5 Gibbs, A.; Bixel, A.; Rackham, B. V.; Apai, D.; **Schlecker, M.** et al., *EDEN: Sensitivity Analysis and Transiting Planet Detection Limits for Nearby Late Red Dwarfs*, AJ, **159**, 169, 2020 (arXiv:2002.10017)
- 4 Espinoza, N. et al. (incl. **Schlecker, M.**), *HD 213885b: a transiting 1-d-period super-Earth with an Earth-like composition around a bright ($V = 7.9$) star unveiled by TESS*, MNRAS, **491**, 2982, 2020 (arXiv:1903.07694)
- 3 Kossakowski, D. et al. (incl. **Schlecker, M.**), *TOI-150b and TOI-163b: two transiting hot Jupiters, one eccentric and one inflated, revealed by TESS near and at the edge of the JWST CVZ*, MNRAS, **490**, 1094, 2019 (arXiv:1906.09866)
- 2 Morales, J. C. et al. (incl. **Schlecker, M.**), *A giant exoplanet orbiting a very-low-mass star challenges planet formation models*, Science, **365**, 1441, 2019 (arXiv:1909.12174)
- 1 Luque, R. et al. (incl. **Schlecker, M.**), *Planetary system around the nearby M dwarf GJ 357 including a transiting, hot, Earth-sized planet optimal for atmospheric characterization*, A&A, **628**, 2019 (arXiv:1904.12818)

Preprints & Other

- 7 Stock, S. et al. (incl. **Schlecker, M.**), *The CARMENES search for exoplanets around M dwarfs. Three temperate to warm super-Earths*, ArXiv, 2020 ([arXiv:2010.00474](#))
- 6 Jahnke, K. et al. (incl. **Schlecker, M.**), *An astronomical institute's perspective on meeting the challenges of the climate crisis*, ArXiv, 2020 ([arXiv:2009.11307](#))
- 5 Kemmer, J. et al. (incl. **Schlecker, M.**), *Discovery of a hot, transiting, Earth-sized planet and a second temperate, non-transiting planet around the M4 dwarf GJ 3473 (TOI-488)*, ArXiv, 2020 ([arXiv:2009.10432](#))
- 4 Brahm, R. et al. (incl. **Schlecker, M.**), *TOI-481 b & TOI-892 b: Two long period hot Jupiters from the Transiting Exoplanet Survey Satellite*, ArXiv, 2020 ([arXiv:2009.08881](#))
- 3 Nowak, G. et al. (incl. **Schlecker, M.**), *The CARMENES search for exoplanets around M dwarfs. Two planets on the opposite sides of the radius gap transiting the nearby M dwarf LTT 3780*, ArXiv, 2020 ([arXiv:2003.01140](#))
- 2 **Schlecker, M.**, *lcps: Light curve pre-selection*, Astrophysics Source Code Library, 2018
- 1 Tiedemann, L. et al. (incl. **Schlecker, M.**), *The development of the μ ROSI X-ray telescope*, SPIE, **8859**, 885905, 2013

Selected Presentations

MIT Exoplanet Tea

INVITED SEMINAR

[MIT Kavli Institute \(virtual\)](#)

planned: Nov. 2020

Exoplanet Demographics Conference

CONTRIBUTED CONFERENCE TALK

[NExSci, IPAC/Caltech \(virtual\)](#)

planned: Nov. 2020

CfA Stars & Planets Seminar

INVITED SEMINAR

[Harvard & Smithsonian \(CfA\) \(virtual\)](#)

planned: Nov. 2020

Exploring the Diversity of Extrasolar Planets

CONTRIBUTED CONFERENCE TALK

[DLR/FU Berlin \(virtual\)](#)

Sep. 2020

Pebbles, Planetesimals, and Protoplanets Conference

CONTRIBUTED CONFERENCE TALK

[Ringberg Castle](#)

Mar. 2020

11th CARMENES Scientific Meeting

CONSORTIUM MEETING

[Jena](#)

Nov. 2019

Institute Colloquium

INVITED SEMINAR

[Tautenburg Observatory](#)

Jun. 2019

Planet Formation and Evolution Conference

CONTRIBUTED CONFERENCE TALK

[University of Rostock](#)

Mar. 2019

Japanese-German Meeting on Exoplanets and Planet Formation

CONTRIBUTED CONFERENCE TALK

[Edesheim](#)

Sep. 2018

IAU General Assembly

CONFERENCE FLASH TALK

[Vienna](#)

Aug. 2018

Ad Valvas Seminar

INVITED SEMINAR

[KU Leuven, Belgium](#)

Jul. 2018

Honors & Awards

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|------|---|-----------------------------------|
| 2016 | Mobility grant , TUM Physics Department | Garching, Germany |
| 2013 | Travel Award , TUMexchange Program | Munich/Singapore |
| 2012 | Best Business Plan , UnternehmerTUM Business Plan Seminar | Garching, Germany |
| 2011 | Outstanding Performance Award , MAN Training Center | Augsburg, Germany |
| 2007 | Talent Promotion , "Begabtenförderung Berufliche Bildung", Chamber of Trade and Industry | Augsburg, Germany |

Teaching, Leadership, and Outreach

Team Coordinator: EDEN Transit Survey

- + Leading a team of 12 student observers; managed ~180 nights (CAHA 1.23m)

Research Advisor: Summer Student Dang Pham (Cornell)

- + Designed and guided summer project (paper in preparation)

Teaching Assistant: Numerical Methods Block Course

- + Hold lectures and tutorials on numerical methods for BSc/MSc students

Author: Q&A feature

- + Wrote a short article about planet formation around Population III stars

Invited Speaker: Student Information Day

- + Advised senior grade students on perspectives in the natural sciences

Tutor: Math Prep Course for Physics Students

- + Taught 30 first year students in mathematical concepts in physics

Invited Speaker: Outreach Talk at VDI/VDE Forum

- + Gave a talk on the supermassive black hole at the Galactic Center

MPIA Heidelberg/University of Arizona

Jun. 2018 – Present

MPIA Heidelberg

Jul. 2019 – Present

Heidelberg University

Feb. 2018, Feb. 2020

All About Space Magazine

Nov. 2019

Berufsoberschule Technik, Augsburg

Apr. 2017

Technical University of Munich

Sep. 2011

University of Applied Sciences Augsburg

Mar. 2009

Community Services

IMPRS: PhD Student Representative

- + Organized recreational and scientific retreats

Heidelberg

2017 – present

Scientists for Future: Climathon Organizer

- + Co-organizing a hackathon to tackle climate challenges

Heidelberg

2020

HGSFP Winter School: SOC+LOC

- + Co-organized a winter school for 60 participants

Obergurgl

2018 – 2019

Japanese-German Meeting on Planet Formation: SOC+LOC

- + Co-organized an international workshop

Edesheim

2018

IMPRS: Fellowship Selection Board

Heidelberg

2017 – Present

Observing Experience

15 nights **1.23 m telescope**

13 nights **2.2 m MPG/ESO telescope**

4 nights **1.22 m telescope**

2 nights **1.8 m telescope**

1 nights **92 cm telescope**

Calar Alto Observatory

La Silla Observatory

Asiago Astrophysical Observatory

Asiago Astrophysical Observatory

Asiago Astrophysical Observatory