Dr. rer. nat. Sebastian Markus STAMMLER

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https://stammler.github.io

EDUCATION

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE *2016-2017*
PHD IN ASTROPHYSICS
Advisor: Professor Jorge Cuadra
Exchange program between Heidelberg University and Catholic University of Santiago de Chile

RUPRECHT-KARLS-UNIVERSITÄT HEIDELBERG *2012-2017*
PHD IN ASTROPHYSICS
Advisor: Professor Cornelis Petrus Dullemond

RUPRECHT-KARLS-UNIVERSITÄT HEIDELBERG *2010-2012*
MASTER OF SCIENCE IN PHYSICS

RUPRECHT-KARLS-UNIVERSITÄT HEIDELBERG *2007-2010*
BACHELOR OF SCIENCE IN PHYSICS

GYMNASIUM MÖCKMÜHL *1998-2007*
ABITUR

GRUNDSCHULE HERBOLZHEIM *1994-1998*

WORK

LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN *since 2017*
POSTDOCTORAL SCIENTIST AT THE UNIVERSITY OBSERVATORY MUNICH

SKILLS

PROGRAMMING LANGUAGES	Python | Fortran | C | PHP | Java
PARALLEL COMPUTING	OpenMP | MPI
CLUSTER COMPUTING	Slurm | Modules
SOFTWARE DEVELOPMENT	Git | Docker
PYTHON	Jupyter | Anaconda | NumPy | SciPy | Matplotlib | Astropy | scikit-learn | TensorFlow
WEB DEVELOPMENT	PHP | HTML | CSS | MySQL
OPERATING SYSTEMS	Linux | Windows
MICROSOFT OFFICE	Excel | PowerPoint | Word
MISCELLANEOUS	LaTeX
LANGUAGES	German (native) | English (fluent)

PUBLISHED SOFTWARE

SIMFRAME
Python-Framework for Scientific Simulations
Github: https://github.com/stammler/simframe/
PyPI: https://pypi.org/project/simframe/
Documentation: https://simframe.readthedocs.io/

DUSTPY
Python-Package to simulate Dust Growth in Protoplanetary Disks
written in Python and Fortran.
Github: https://github.com/stammler/dustpy/
PyPI: https://pypi.org/project/dustpy/
Documentation: https://stammler.github.io/dustpy/

HePhySTO
Software to manage colloquia and seminar talks
Currently in use by the Department of Physics and Astronomy of the University of Heidelberg
https://www.physik.uni-heidelberg.de/hephysto/

Teaching

Seminar: Code Coffee *Winter Semester 2020/21*
Seminar: Astrophysics of the Solar System *Summer Semester 2020*
Mentoring of individual students
Seminar: Code Coffee *Summer Semester 2020*
Seminar: Code Coffee *Winter Semester 2019/20*
Tutorial: Astrophysics I *Summer Semester 2019*
Seminar: Astrophysics of the Solar System *Summer Semester 2019*
Mentoring of individual students
Seminar: Code Coffee *Summer Semester 2019*
Seminar: Code Coffee *Winter Semester 2018/19*
Tutorial: Protoplanetary Disks and Planet Formation *Winter Semester 2017/18*
Tutorial: The Formation and Evolution of Planets in Protoplanetary Disks *Summer Semester 2017*
Seminar: Astrophysics of the Solar System *Summer Semester 2017*
Mentoring of individual students
Tutorial: Introduction to Astronomy II *Summer Semester 2013*
Tutorium: Introduction to Astronomy I *Winter Semester 2012/13*

Conferences & Workshops

Planet Formation Witnesses and Probes: Transition Disks *October 2020*
remotely
Building Blocks of Planets *April 2020*
remotely
Pebbles, Planetesimals and Protoplanets *March 2020*
Ringberg Castle, Kreuth, Germany
ORIGINS Science Week *December 2019*
Max Planck Institute for extraterrestrial Physics, Garching, Germany
From protoplanetary discs to planetary systems *September 2019*
Ringberg Castle, Kreuth, Germany
Turbulence and Structure Formation in Protoplanetary Disks *July 2019*
Ringberg Castle, Kreuth, Germany
Theoretical and Computational Challenges in Planet Formation *May 2019*
Center for Computational Astrophysics, New York City, USA
New Horizons in Planetary Systems *May 2019*
Victoria, British Columbia, Canada
Planet Formation and Evolution *February 2019*
University of Rostock, Germany
Take a Closer Look: The innermost region of protoplanetary discs *October 2018*
ESO, Garching, Germany
Japanese-German Meeting on Exoplanets and Planet Formation *September 2018*
Edesheim, Germany
Water during planet formation and evolution *February 2018*
University of Zürich, Switzerland
Planet Formation and Evolution *September 2017*
University of Jena, Germany

XIV Annual SOCHIAS Meeting *January 2017*
Marbella, Chile

XV Latin American Regional IAU Meeting *October 2016*
Cartagena de Indias, Columbia

Linking Exoplanet and Disk Compositions *September 2016*
Space Telescope Science Institute, Baltimore, USA

Resolving planet formation in the era of ALMA and extreme AO *May 2016*
ESO, Santiago de Chile, Chile

Disk Dynamics & Planet Formation *June 2015*
UCLAN, Larnaka, Cyprus

The Formation of the Solar System *May 2014*
Max Planck Institute for Radio Astronomy, Bonn, Germany

4th annual meeting of the DFG Special Priority Program 1385 *October 2013*
Nördlingen, Germany

Dust Growth *July 2013*
Max Planck Institute für Astronomy, Heidelberg, Germany

Protostars & Planets *July 2013*
Heidelberg, Germany

Ice and Planet Formation *May 2013*
Lund Observatory, Sweden

Planet Formation and Evolution *September 2012*
Ludwig Maximilian University München, Germany

Research Stays

Earth-Life Science Institute *25. March – 29. March 2019*
Tokyo Institute of Technology, Tokyo, Japan

Aspen Center for Physics *15. July – 5. August 2018*
Apsen, Colorado, USA

Los Alamos National Laboratory *14. August – 18. August 2017*
Los Alamos, New Mexico, USA

Munich Institute for Astro and Particle Physics *29. May – 23. June 2017*
Garching, Germany

Publications

Stammler, Sebastian Markus (2017), **Dissertation**: *"The Role of Ices in the Process of Planet Formation"*.
doi:10.11588/heidok.00022784

Lenz, Christian T.; Klahr, Hubert; Birnstiel, Tilman; Kretke, Katherine; **Stammler, Sebastian Markus** (2020), Astronomy & Astrophysics, Volume 640, id.A61, 21 pp.: *"Constraining the parameter space for the solar nebula. The effect of disk properties on planetesimal formation"*.
doi:10.1051/0004-6361/202037878

Li, Ya-Ping; Li, Hui; Li, Shengtai; Birnstiel, Tilman; Drążkowska, Joanna; **Stammler, Sebastian** (2020), The Astrophysical Journal Letters, Volume 892, Issue 2, id.L19, 8 pp.: *"Planet-induced Vortices with Dust Coagulation in Protoplanetary Disks"*.
doi:10.3847/2041-8213/ab7fb2

Gárate, Matías; Birnstiel, Til; Drążkowska, Joanna; **Stammler, Sebastian Markus** (2020), Astronomy & Astrophysics, Volume 635, id.A149, 18 pp.: *"Gas accretion damped by dust back-reaction at the snow line"*.
doi:10.1051/0004-6361/201936067

Laune, JT; Li, Hui; Li, Shengtai; Li, Ya-Ping; Walls, Levi G.; Birnstiel, Tilman; Drążkowska, Joanna; **Stammler, Sebastian** (2020), The Astrophysical Journal, Volume 885, Issue 1, article id. 91, 10 pp.: *"Ring Morphology with Dust Coagulation in Protoplanetary Disks"*.
doi:10.3847/2041-8213/ab65c6

Drążkowska, Joanna; Li, Shengtai; Birnstiel, Til; **Stammler, Sebastian M.**; Li, Hui (2019), The Astrophysical Journal, Volume 885, Issue 1, article id. 91, 10 pp.: *"Including Dust Coagulation in Hydrodynamic Models of Protoplanetary Disks: Dust Evolution in the Vicinity of a Jupiter-mass Planet "*.
doi:10.3847/1538-4357/ab46b7

Stammler, Sebastian M.; Drążkowska, Joanna; Birnstiel, Til; Klahr, Hubert; Dullemond, Cornelis P.; Andrews, Sean M. (2019), The Astrophysical Journal Letters, Volume 884, Issue 1, article id. L5, 7 pp.: *"The DSHARP Rings: Evidence of Ongoing Planetesimal Formation?"*.
doi:10.3847/2041-8213/ab4423

Li, Ya-Ping; Li, Hui; Ricci, Luca; Li, Shengtai; Birnstiel, Tilman; Isella, Andrea; Ansdell, Megan; Yuan, Feng; Drążkowska, Joanna; **Stammler, Sebastian** (2019), The Astrophysical Journal, Volume 878, Issue 1, article id. 39, 15 pp.: *"Effects of Ringed Structures and Dust Size Growth on Millimeter Observations of Protoplanetary Disks"*.
doi:10.3847/1538-4357/ab1f64

Cuello, N.; Montesinos, M.; **Stammler, S. M.**; Louvet, F.; Cuadra, J. (2019), Astronomy & Astrophysics, Volume 622, id.A43, 15 pp.: *"Dusty spirals triggered by shadows in transition discs"*.
doi:10.1051/0004-6361/201731732

Gárate, Matías; Birnstiel, Til; **Stammler, Sebastian Markus**; Günther, Hans Moritz (2019), The Astrophysical Journal, Volume 871, Issue 1, article id. 53, 16 pp.: *"The Dimming of RW Auriga: Is Dust Accretion Preceding an Outburst?"*.
doi:10.3847/1538-4357/aaf4fc

Stammler, Sebastian (2018), Take a Closer Look, 15-19 October, 2018 in ESO-HQ, Garching b. München, Germany: *"A Closer Look on Dust Growth: The Spectral Index"*.
doi:10.5281/zenodo.1488988

Pinilla, P.; Pohl, A.; **Stammler, S. M.**; Birnstiel, T. (2017), The Astrophysical Journal, Volume 845, Issue 1, article id. 68, 15 pp.: *"Dust Density Distribution and Imaging Analysis of Different Ice Lines in Protoplanetary Disks"*.
doi:10.3847/1538-4357/aa7edb

Stammler, Sebastian Markus; Birnstiel, Tilman; Panić, Olja; Dullemond, Cornelis Petrus; Dominik, Carsten (2017), Astronomy & Astrophysics, Volume 600, id.A140, 16 pp.: *"Redistribution of CO at the location of the CO ice line in evolving gas and dust disks"*.
doi:10.1051/0004-6361/201629041

Dullemond, Cornelis Petrus; Harsono, Daniel; **Stammler, Sebastian Markus**; Johansen, Anders (2016), The Astrophysical Journal, Volume 832, Issue 1, article id. 91, 19 pp.: *"Forming Chondrules in Impact Splashes II Volatile Retention"*.
doi:10.3847/0004-637X/832/1/91

Stammler, Sebastian M.; Dullemond, Cornelis P. (2014), The Astrophysical Journal, Volume 832, Issue 1, article id. 91, 19 pp.: *"A critical analysis of shock models for chondrule formation"*.
doi:10.1016/j.icarus.2014.07.024

Dullemond, Cornelis Petrus; **Stammler, Sebastian Markus**; Johansen, Anders (2014), The Astrophysical Journal, Volume 794, Issue 1, article id. 91, 12 pp.: *"Forming Chondrules in Impact Splashes. I. Radiative Cooling Model"*.
doi:10.1088/0004-637X/794/1/91