

Christian Rab



Personal Information

Citizenship: Austria
Email: christian.rab@gmail.com

Research Experience

Aug. 2021 – Postdoc at **LMU Munich - University Observatory Munich (USM)**
Guest Scientist: MPE - Center for Astrochemical Studies
Project: Thermochemistry of disk winds.

Jul. 2020 – Jul. 2021 Postdoc at **Max Planck Institute for Extraterrestrial Physics - Center for Astrochemical Studies**
Project: Thermochemistry of disk winds.

May. 2017 – Jun. 2020 Postdoc at **Kapteyn Astronomical Institute - University of Groningen**
Project: "Herbig Ae/Be stars: Rosetta stone for understanding the formation of planetary systems."
Modelling of planet-forming and circumplanetary disks.

Oct. 2012 – Apr. 2017 PhD studies of Astronomy at the **University of Vienna**.
Thesis: "Modelling of energetic processes in the circumstellar environment of young solar-like stars"
Supervisor: Manuel Güdel; Thesis defense date: December 18, 2017

Professional Experience

Feb. 1999 – Jan. 2006 **Software engineer** - Dr. E. Hackhofer GesmbH, Vienna
Development and maintenance of an insurance software written in C.
Development and design of web applications for the Uniqa Insurance Company in an J2EE environment (Servlets, JSP, Struts, JUnit, JDBC, WebServices)

Feb. 1998 – Jan. 1999 Alternative civilian service at a nursing home for the elderly

Oct. 1997 – Jan. 1998 Software engineer - Dr. E. Hackhofer GesmbH, Vienna

Education

Oct. 2009 – May 2012	Master studies of Astronomy at the University of Vienna. Thesis: "Dust Radiative Transfer in Protoplanetary Disks with PHOENIX/3D" Supervisor: Manuel Güdel. Passed with distinction.
Mar. 2006 – Aug. 2009	Bachelor studies of Astronomy at the University of Vienna. Bachelor Thesis: "Direct Evidence for Dark Matter in Clusters of Galaxies" Supervisor: Christian Theis. Passed with distinction.
Sept. 1992 – Jun. 1997	HTL (higher technical school), St. Pölten, Austria Department: EDP and Organisation/Computer Science. Passed with merit.

Additional Training

15. Mar – 22. Mar 2015	45 th Saas-Fee Course - "From Protoplanetary Disks to Planet Formation" Les Diablerets, Switzerland
18. Mar – 22. Mar. 2013	The Chemical Cosmos Training School - IPAG Grenoble, France
12. Dec – 16 Dec. 2011	26 th Concurrent Engineering Study of the German Aerospace Center (DLR) Bremen, Germany. Continuation of the AEGIS-Mission Design (Advanced European Galaxy Imager and Spectrograph), started at the summer school Alpbach.
19. Jul. – 28. Jul 2011	Summer School Alpbach - "Star Formation across the Universe", Austria Design of a space telescope mission to study star formation in our Universe.
Jun. 2007 – Jul. 2007	Internship at the University of Vienna. Development of a Java Applet illustrating Kepler's laws of planetary motion for an E-Learning Platform.

Teaching Activities

2017 – now	Co-Supervisor of one Master Thesis and three Bachelor Thesis. Two Bachelor projects proposed by myself. University of Groningen
2014 – 2017	Co-Supervisor of one Master Thesis and five Bachelor Thesis. University of Vienna
Oct 2013 – Jan 2016	Co-Lecturer for "Computational Concepts in Astronomy and Geosciences I" Lectures on Radiative Transfer in Astrophysics for three semesters.
Mar. 2010 – Jul. 2011	Tutor for "Introduction to Astronomy II & III" Three Semesters: correction of and feedback on exercises. Administrative tasks.

Technical Skills

Programming	Fortran, Python, IDL, Java, C, C++, MPI, OpenMP
Software development	Eclipse, Git, Subversion, JUnit
Web technologies	J2EE (JavaServer Pages, Servlets, RMI), HTML, CSS, JavaScript, XML, XSLT
Database technologies	SQL, JDBC, DB2
Operating Systems	Linux, Mac OS X, Windows

Science Community Services

March 2023	LOC, Conference: Exploring the Diversity of Extrasolar Planets; Munich, Germany
July 2022	Main Organizer of Lorentz Center Workshop: The Dynamic & Chemical Connection; Leiden, Netherlands
2020 – now	Referee for Astrophysical Journal, Astronomy&Astrophysics, Exp. Astronomy
2019 – 2020	Organizer Colloquium Kapteyn Astronomical Institute
2017 – 2019	Organizer Lunch Seminar Kapteyn Astronomical Institute
Oct. 2018	PhD Thesis Defense Committee A.J. Greenwood; University of Groningen
2018	LOC, Conference: Our Astro-Chemical History: Past, Present, and Future; Assen, Netherlands

Memberships

2018 - now	Junior Member of the International Astronomical Union (IAU)
2015 - now	Member of the Austrian Society for Astronomy and Astrophysics (OEGAA)

Successful Observing Proposals

2023 ALMA Cycle 10	Co-I: <i>Monitoring Post-Flare Protoplanetary Chemistry with ALMA.</i> Priority A, 16.9 h, PI: A. Waggoner
2023 ALMA Cycle 10	Co-I: <i>Hunting two planet candidates from gas and dust signatures.</i> Priority B, 10.2 h, PI: PI: A. E. Sierra Morales
2023 VLT/SPHERE	Co-I: <i>Characterizing the dust in the circumplanetary disk of CT Cha B through accurate multi-wavelength polarimetry</i> , 4.5 h, PI: R. van Holstein
2022 VLT/SPHERE	Co-I: <i>Confirmation of an embedded planet in a PDS70-like transition disk</i> , 2 h, PI: C. Ginski
2021 JWST Cycle 1	Principal Investigator: <i>Spectroscopy of the Circumplanetary Disk around the Young Planet-mass Companion CT Cha b.</i> , 4.5 h
2021 JWST Cycle 1	Co-I: <i>Preparing for Planets: The Impact of the Extraordinary Outburst of EX Lup on Its Circumstellar Disk</i> , 1.6 h, PI: P. Abraham
2021 JWST Cycle 1	Co-I: <i>Detecting a Young 2 Jupiter Mass Planet Embedded in the Disk of HD 163296</i> , 7.8 h, PI: G. Cugno
2019 ALMA Cycle 7	Principal Investigator: <i>CT Cha b: The perfect candidate to detect a circumplanetary disk.</i> Priority A, 12.6 h
2019 VLT/SPHERE	Co-I: <i>Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYs).</i> Priority A, 127.5 h, PI: C. Ginski
2018 ALMA Cycle 6	Co-I: <i>Eccentric wide hot-subdwarf binaries: Testing the circumbinary disk hypothesis.</i> Priority B, 4 h, PI: J. Vos
2016 ALMA Cycle 4	Principal Investigator: <i>Searching for the flow base of the disk wind in TW Hya.</i> Priority B, 2.3 h
2015 ALMA Cycle 3	Co-I: <i>Blowin' in the Wind: The Outflows of DG Tau.</i> Priority B, 2.0 h, PI: M. Güdel
2015 VLT/VISIR	Co-I: <i>Disk winds in the low accretion regime: a study of [NeII] emission in protoplanetary disks</i> Priority A, 26 h; PI: C. Baldovin-Saavedra
2015 VLT/UVES	Co-I: <i>Witnessing the Dissipation of Transition Disks.</i> Priority B, 9 h; PI: C. Baldovin-Saavedra

Conference & Seminar Talks

14.07.2023, Kraków	<i>Circumplanetary Disks (also with JWST)</i> . Conference - EAS Session S7, invited
13.06.2023, Tautenburg	<i>From protoplanetary to planet-forming disks</i> . Institute's Colloquium TLS Tautenburg, invited
10.11.2022, Florence	<i>Constraining the stellar energetic particle flux of T Tauri stars</i> . Conference - Cosmic rays - the salt of the star formation recipe II, contributed
26.09.2022, Vienna	<i>Protoplanetary/Planet-forming disks - The power of spectral line observations</i> . Ernst Dorfi Summerschool, invited
23.07.2022, Athens	<i>Constraining Coronal Mass Ejection and the Stellar Energetic Particle Fluxes from Young Stars During the Period of Planet Formation</i> . Conference - COSPAR 2022 - D2.2: Connecting Solar and Stellar Coronal Mass Ejections: Lessons Learned, Challenges and Perspectives, contributed.
22.07.2022, Athens	<i>Observing the gas disk around the young planet-mass companion CT Cha b with JWST and ALMA</i> . Conference - COSPAR 2022 - E1.10: Star Formation with Spaceborne Infrared Facilities: the Era of JWST, contributed.
16.12.2021, Online	<i>Constraining the energetic particle flux of young stars during the period of planet formation</i> . Conference - AGU Fall Meeting - Cool Stars and Their Influence on (Exo)Planetary Habitability, contributed.
29.09.2021, Online	<i>Detecting PAHs in exoplanets and planet-forming disks with Twinkle</i> . Conference - Twinkle and the Next Generation of Exoplanet Scientists, lightning talk, contributed.
13.09.2021, Online	<i>Constraining the energetic particle flux of young stars during the period of planet formation</i> . Conference - Virtual Meeting of the German Astronomical Society - Zooming into the Universe, contributed
05.10.2020, Online	<i>Interpreting high spatial resolution line observations of planet-forming disks with gaps and rings: The case of HD 163296</i> . Conference - Planet Formation Witnesses and Probes: Transition Disks, contributed
09.06.2020, Online	<i>Observing circumplanetary disks around wide-orbit planet-mass companions</i> . Webinar - Star & Planet Formation, ESO, invited
04.11.2019, Tübingen	<i>Radiation thermo-chemical modelling of planet-forming and circumplanetary disks</i> . Astrophysikalisches Seminar - Universität Tübingen, invited
02.08.2019, Vienna	<i>Proto-planetary/ planet forming disks - Interpreting ALMA observations</i> , ESI workshop - Pathways from Star Formation to Habitable Planets, invited
28.06.2019, Lyon	<i>Sources of variability in star-formation: a theoretical perspective</i> , EWASS - Star-formation in the time domain, invited review
26.06.2019, Lyon	<i>The dust and gas structure of the HD 163296 planet-forming disk - Gas gaps or not?</i> , EWASS - Protoplanetary disks: the birth places of planets, contributed
25.06.2019, Lyon	<i>A 2D radiation thermo-chemical model for the circumstellar environment of Class I protostars</i> . EWASS - The physics and chemistry of Class I protostars in the ALMA era, contributed
13.09.2018, Assen	<i>X-rays and other high-energy ionization sources in protoplanetary disks</i> . Our Astro-Chemical History - Past, Present, and Future, invited
04.05.2018, Florence	<i>Modelling of high-energy ionization processes in the circumstellar environment of young solar-like stars</i> . Cosmic rays - the salt of the star formation recipe, contributed

Conference & Seminar Talks

23.05.2017, Nijmegen	<i>The chemistry of episodic accretion. 2D radiation thermo-chemical models of the post-burst phase.</i> Dutch Astronomy Conference 2017, contributed
02.03.2017, Geneva	<i>Energetic protoplanetary disk modelling.</i> Seminar, Geneva Observatory, invited
04.07.2016, Athens	<i>Modeling the chemistry of episodic accretion.</i> EWASS – Episodic accretion in star formation, contributed
07.07.2016, Athens	<i>Possible observational signatures of stellar high energy particles in disks around T Tauri stars.</i> EWASS – The Dynamics of Star and Planet Formation, contributed
08.03.2016, Edinburgh	<i>Possible observational signatures of stellar high energy particles in disks around T Tauri stars.</i> Protoplanetary Discussions, contributed
23.02.2016, Grunlsee	<i>Computational Astrophysics: planets, stars and galaxies.</i> Austrian HPC Meeting, contributed
15.12.2015, Vienna	<i>Modelling of Protoplanetary Disks.</i> , Vienna Theory Lunch, invited
03.09.2015, Vienna	<i>Observational signatures of Stellar Cosmic Rays in disks around T Tauri stars.</i> OEGAA Meeting, contributed

Refereed Articles

1. Picogna, Giovanni, Schäfer, Carolina, Ercolano, Barbara, **Rab, Christian**, Franz, Rafael, Gárate, Matías (2023). Observability of photoevaporation signatures in the dust continuum emission of transition discs. *MNRAS*, 523:3318-3327. [ADS](#)
2. Zhang, Yapeng, Ginski, Christian, Huang, Jane, Zurlo, Alice, Beust, Hervé, Bae, Jaehan, Benisty, Myriam, Garufi, Antonio, Hogerheijde, Michiel R., van Holstein, Rob G., Kenworthy, Matthew, Langlois, Maud, Manara, Carlo F., Pinilla, Paola, **Rab, Christian**, Ribas, Álvaro, Rosotti, Giovanni P., Williams, Jonathan (2023). Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYs): Diverse outcomes of binary-disk interactions. *A&A*, 672:A145. [ADS](#)
3. Backs, F., Poorta, J., **Rab, Ch.**, Derkink, A. R., de Koter, A., Kaper, L., Ramírez-Tannus, M. C., Kamp, I. (2023). Massive pre-main-sequence stars in M17. Modelling hydrogen and dust in MYSO disks. *A&A*, 671:A13. [ADS](#)
4. Brunn, V., Marcowith, A., Sauty, C., Padovani, M., **Rab, Ch**, Meskini, C. (2023). Ionization of inner T Tauri star discs: effects of in situ energetic particles produced by strong magnetic reconnection events. *MNRAS*, 519:5673-5688. [ADS](#)
5. Kóspál, Ágnes, Ábrahám, Péter, Diehl, Lindsey, Banzatti, Andrea, Bouwman, Jeroen, Chen, Lei, Cruz-Sáenz de Miera, Fernando, Green, Joel D., Henning, Thomas, **Rab, Christian** (2023). JWST/MIRI Spectroscopy of the Disk of the Young Eruptive Star EX Lup in Quiescence. *ApJ*, 945:L7. [ADS](#)
6. Oberg, N., Kamp, I., Cazaux, S., **Rab, Ch.**, Czoske, O. (2023). Observing circumplanetary disks with METIS. *A&A*, 670:A74. [ADS](#)
7. **Rab, Ch.**, Weber, M., Grassi, T., Ercolano, B., Picogna, G., Caselli, P., Thi, W.-F., Kamp, I., Woitke, P. (2022). **Interpreting molecular hydrogen and atomic oxygen line emission of T Tauri disks with photoevaporative disk-wind models.** *A&A*, 668:A154. [ADS](#)
8. Væglærd, P. -G., Ginski, C., Dominik, C., Bae, J., Benisty, M., Birnstiel, T., Facchini, S., Garufi, A., Hogerheijde, M., van Holstein, R. G., Langlois, M., Manara, C. F., Pinilla, P., **Rab, Ch.**, Ribas, Á., Waters, L. B. F. M., Williams, J. (2022). Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYs): Scattered light detection of a possible disk wind in RY Tau. *A&A*, 668:A25. [ADS](#)
9. Weber, Michael L., Ercolano, Barbara, Picogna, Giovanni, **Rab, Christian** (2022). The interplay between forming planets and photoevaporating discs I: forbidden line diagnostics. *MNRAS*, 517:3598-3612. [ADS](#)
10. Guadarrama, Rodrigo, Vorobyov, Eduard I., **Rab, Christian**, Güdel, Manuel (2022). The effect of metallicity on the abundances of molecules in protoplanetary disks. *A&A*, 667:A28. [ADS](#)
11. Arabhavi, Aditya M., Woitke, Peter, Cazaux, Stéphanie M., Kamp, Inga, **Rab, Christian**, Thi, Wing-Fai (2022). Ices in planet-forming disks: Self-consistent ice opacities in disk models. *A&A*, 666:A139. [ADS](#)
12. Ercolano, Barbara, **Rab, Christian**, Molaverdikhani, Karan, Edwards, Billy, Preibisch, Thomas, Testi, Leonardo, Kamp, Inga, Thi, Wing-Fai (2022). Observations of PAHs in the atmospheres of discs and exoplanets. *MNRAS*, 512:430-438. [ADS](#)
13. Huang, Jane, Ginski, Christian, Benisty, Myriam, Ren, Bin, Bohn, Alexander J., Choquet, Élodie, Öberg, Karin I., Ribas, Álvaro, Bae, Jaehan, Bergin, Edwin A., Birnstiel, Til, Boehler, Yann, Facchini, Stefano, Harsono, Daniel, Hogerheijde, Michiel, Long, Feng, Manara, Carlo F., Ménard, François, Pinilla, Paola, Pinte, Christophe, **Rab, Christian**, Williams, Jonathan P., Zurlo, Alice (2022). Disk Evolution Study through Imaging of Nearby Young Stars (DESTINYs): A Panchromatic View of DO Tau's Complex Kilo-astronomical-unit Environment. *ApJ*, 930:171. [ADS](#)

14. Franz, R., Picogna, G., Ercolano, B., Casassus, S., Birnstiel, T., **Rab, Ch.**, Pérez, S. (2022). Dust entrainment in photoevaporative winds: Synthetic observations of transition disks. *A&A*, 659:A90. [ADS](#)
15. Portilla-Revelo, B., Kamp, I., **Rab, Ch.**, van Dishoeck, E. F., Keppler, M., Min, M., Muro-Arena, G. A. (2022). Self-consistent modelling of the dust component in protoplanetary and circumplanetary disks: the case of PDS 70. *A&A*, 658:A89. [ADS](#)
16. Franz, R., Ercolano, B., Casassus, S., Picogna, G., Birnstiel, T., Pérez, S., **Rab, Ch.**, Sharma, A. (2022). Dust entrainment in photoevaporative winds: Densities and imaging. *A&A*, 657:A69. [ADS](#)
17. Petit dit de la Roche, D. J. M., Oberg, N., van den Ancker, M. E., Kamp, I., van Boekel, R., Fedele, D., Ivanov, V. D., Kasper, M., Käuff, H. U., Kissler-Patig, M., Miles-Pérez, P. A., Pantin, E., Quanz, S. P., **Rab, Ch.**, Siebenmorgen, R., Waters, L. B. F. M. (2021). New mid-infrared imaging constraints on companions and protoplanetary disks around six young stars. *A&A*, 648:A92. [ADS](#)
18. Ginski, C., Ménard, F., **Rab, Ch.**, Mamajek, E. E., van Holstein, R. G., Benisty, M., Manara, C. F., Asensio Torres, R., Bohn, A., Birnstiel, T., Delorme, P., Facchini, S., Garufi, A., Gratton, R., Hogerheijde, M., Huang, J., Kenworthy, M., Langlois, M., Pinilla, P., Pinte, C., Ribas, Á., Rosotti, G., Schmidt, T. O. B., van den Ancker, M., Wahhaj, Z., Waters, L. B. F. M., Williams, J., Zurlo, A. (2020). Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYS): A close low-mass companion to ET Cha. *A&A*, 642:A119. [ADS](#)
19. **Rab, Ch.**, Kamp, I., Dominik, C., Ginski, C., Muro-Arena, G. A., Thi, W.-F., Waters, L. B. F. M., Woitke, P. (2020). **Interpreting high spatial resolution line observations of planet-forming disks with gaps and rings: the case of HD 163296.** *A&A*, 642:A165. [ADS](#)
20. Oberg, N., Kamp, I., Cazaux, S., **Rab, Ch.** (2020). Photoevaporation of the Jovian circumplanetary disk. I. Explaining the orbit of Callisto and the lack of outer regular satellites. *A&A*, 638:A135. [ADS](#)
21. Kennedy, Grant M., Ginski, Christian, Kenworthy, Matthew A., Benisty, Myriam, Henning, Thomas, van Holstein, Rob G., Kral, Quentin, Ménard, François, Milli, Julien, Quiroga-Nuñez, Luis Henry, **Rab, Christian**, Stolker, Tomas, Sturm, Ardjan (2020). A low-mass stellar companion to the young variable star RZ Psc. *MNRAS*, 496:L75-L79. [ADS](#)
22. Thi, W.-F., Hocuk, S., Kamp, I., Woitke, P., **Rab, Ch.**, Cazaux, S., Caselli, P., D'Angelo, M. (2020). Warm dust surface chemistry in protoplanetary disks. Formation of phyllosilicates. *A&A*, 635:A16. [ADS](#)
23. Thi, W.-F., Hocuk, S., Kamp, I., Woitke, P., **Rab, Ch.**, Cazaux, S., Caselli, P. (2020). Warm dust surface chemistry. H₂ and HD formation. *A&A*, 634:A42. [ADS](#)
24. Thi, W.-F., Lesur, G., Woitke, P., Kamp, I., **Rab, Ch.**, Carmona, A. (2019). Radiation thermo-chemical models of protoplanetary disks. Grain and polycyclic aromatic hydrocarbon charging. *A&A*, 632:A44. [ADS](#)
25. Postel, A., Audard, M., Vorobyov, E., Dionatos, O., **Rab, C.**, Güdel, M. (2019). Infrared and sub-mm observations of outbursting young stars with Herschel and Spitzer. *A&A*, 631:A30. [ADS](#)
26. Woitke, P., Kamp, I., Antonellini, S., Anthonioz, F., Baldovin-Saveedra, C., Carmona, A., Dionatos, O., Dominik, C., Greaves, J., Güdel, M., Ilee, J. D., Liebhardt, A., Menard, F., Min, M., Pinte, C., **Rab, C.**, Rigon, L., Thi, W.-F., Thureau, N., Waters, L. B. F. M. (2019). Consistent Dust and Gas Models for Protoplanetary Disks. III. Models for Selected Objects from the FP7 DIANA Project. *PASP*, 131:064301. [ADS](#)
27. Dionatos, O., Woitke, P., Güdel, M., Degroote, P., Liebhart, A., Anthonioz, F., Antonellini, S., Baldovin-Saavedra, C., Carmona, A., Dominik, C., Greaves, J., Ilee, J. D., Kamp, I., Ménard, F., Min, M., Pinte, C., **Rab, C.**, Rigon, L., Thi, W.-F., Waters, L. B. F. M. (2019). Consistent dust and gas models for protoplanetary disks. IV. A panchromatic view of protoplanetary disks. *A&A*, 625:A66. [ADS](#)

28. White, J. A., Kóspál, Á., **Rab, C.**, Ábrahám, P., Cruz-Sáenz de Miera, F., Csengeri, T., Fehér, O., Güsten, R., Henning, T., Vorobyov, E., Audard, M., Postel, A. (2019). APEX Observations of the CO Envelope around the Young FUor-type Star V883 Ori. *ApJ*, 877:21. [ADS](#)
29. **Rab, Ch.**, Kamp, I., Ginski, C., Oberg, N., Muro-Arena, G. A., Dominik, C., Waters, L. B. F. M., Thi, W.-F., Woitke, P. (2019). **Observing the gas component of circumplanetary disks around wide-orbit planet-mass companions in the (sub)mm regime.** *A&A*, 624:A16. [ADS](#)
30. Elbakyan, Vardan G., Vorobyov, Eduard I., **Rab, Christian**, Meyer, Dominique M. -A., Güdel, Manuel, Hosokawa, Takashi, Yorke, Harold (2019). Episodic excursions of low-mass protostars on the Hertzsprung-Russell diagram. *MNRAS*, 484:146-160. [ADS](#)
31. Güdel, M., Eibensteiner, C., Dionatos, O., Audard, M., Forbrich, J., Kraus, S., **Rab, Ch.**, Schneider, Ch., Skinner, S., Vorobyov, E. (2018). ALMA detects a radial disk wind in DG Tauri. *A&A*, 620:L1. [ADS](#)
32. Pinte, C., Ménard, F., Duchêne, G., Hill, T., Dent, W. R. F., Woitke, P., Maret, S., van der Plas, G., Hales, A., Kamp, I., Thi, W.-F., de Gregorio-Monsalvo, I., **Rab, C.**, Quanz, S. P., Avenhaus, H., Carmona, A., Casassus, S. (2018). Direct mapping of the temperature and velocity gradients in discs. Imaging the vertical CO snow line around IM Lupi. *A&A*, 609:A47. [ADS](#)
33. **Rab, Ch.**, Güdel, M., Woitke, P., Kamp, I., Thi, W.-F., Min, M., Aresu, G., Meijerink, R. (2018). **X-ray radiative transfer in protoplanetary disks. The role of dust and X-ray background fields.** *A&A*, 609:A91. [ADS](#)
34. Kamp, I., Thi, W.-F., Woitke, P., **Rab, C.**, Bouma, S., Ménard, F. (2017). Consistent dust and gas models for protoplanetary disks. II. Chemical networks and rates. *A&A*, 607:A41. [ADS](#)
35. **Rab, Ch.**, Elbakyan, V., Vorobyov, E., Güdel, M., Dionatos, O., Audard, M., Kamp, I., Thi, W.-F., Woitke, P., Postel, A. (2017). **The chemistry of episodic accretion in embedded objects. 2D radiation thermo-chemical models of the post-burst phase.** *A&A*, 604:A15. [ADS](#)
36. **Rab, Ch.**, Güdel, M., Padovani, M., Kamp, I., Thi, W.-F., Woitke, P., Aresu, G. (2017). **Stellar energetic particle ionization in protoplanetary disks around T Tauri stars.** *A&A*, 603:A96. [ADS](#)
37. Greenwood, A. J., Kamp, I., Waters, L. B. F. M., Woitke, P., Thi, W.-F., **Rab, Ch.**, Aresu, G., Spaans, M. (2017). Thermochemical modelling of brown dwarf discs. *A&A*, 601:A44. [ADS](#)
38. Paunzen, Ernst, Handler, Gerald, Lendl, Monika, Baumann, Bernhard, **Rab, Christian**, Meingast, Stefan, Rode-Paunzen, Monika, Netopil, Martin, Antoci, Victoria, Zhu, Liying, Zejda, Miloslav, Božić, Hrvoje (2017). Search for variables in six Galactic open clusters. *New A*, 52:133-139. [ADS](#)
39. **Rab, Christian**, Baldovin-Saavedra, Carla, Dionatos, Odysseas, Vorobyov, Eduard, Güdel, Manuel (2016). **The Gas Disk: Evolution and Chemistry.** *Space Sci. Rev.*, 205:3-40. [ADS](#)
40. Woitke, P., Min, M., Pinte, C., Thi, W.-F., Kamp, I., **Rab, C.**, Anthonioz, F., Antonellini, S., Baldovin-Saavedra, C., Carmona, A., Dominik, C., Dionatos, O., Greaves, J., Güdel, M., Ilee, J. D., Liebhart, A., Ménard, F., Rigon, L., Waters, L. B. F. M., Aresu, G., Meijerink, R., Spaans, M. (2016). Consistent dust and gas models for protoplanetary disks. I. Disk shape, dust settling, opacities, and PAHs. *A&A*, 586:A103. [ADS](#)
41. Min, M., **Rab, Ch.**, Woitke, P., Dominik, C., Ménard, F. (2016). Multiwavelength optical properties of compact dust aggregates in protoplanetary disks. *A&A*, 585:A13. [ADS](#)

Non-refereed Articles

1. **Rab, C.**, Elbakyan, V., Vorobyov, E., Postel, A., Güdel, M., Dionatos, O., Audard, M., Kamp, I., Thi, W.-F., Woitke, P. (2020). **The chemistry of episodic accretion.** *Laboratory Astrophysics: From Observations to Interpretation.* [ADS](#)

2. **Rab, Ch.**, Muro-Arena, G. A., Kamp, I., Dominik, C., Waters, L. B. F. M., Thi, W.-F., Woitke, P. (2020). **Searching for chemical signatures of planet formation.** *IAU Symposium*. [ADS](#)
3. **Rab, C.**, Muro-Arena, G. A., Kamp, I., Dominik, C., Waters, L. B. F. M., Thi, W.-F., Woitke, P. (2020). **The gas structure of the HD 163296 planet-forming disk - gas gaps or not?** *Laboratory Astrophysics: From Observations to Interpretation*. [ADS](#)
4. **Rab, Ch.**, Padovani, M., Güdel, M., Kamp, I., Thi, W.-F., Woitke, P. (2020). **Constraining the stellar energetic particle flux in young solar-like stars.** *IAU Symposium*. [ADS](#)
5. White, J. A., Audard, M., Ábrahám, P., Cieza, L., de Miera, F. C., Dunham, M. M., Green, J. D., Güdel, M., Grosso, N., Hales, A., Hartmann, L., Kadam, K., Kastner, J. H., Kóspál, Á., Perez, S., Postel, A., Ruiz-Rodriguez, D., **Rab, C.**, Vorobyov, E. I., Zhu, Z. (2018). Resolving the Radio Complexity of EXor and FUor-type Systems with the ngVLA. *Science with a Next Generation Very Large Array*. [ADS](#)
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