

TOMÁŠ HENYCH

PERSONAL INFO

Date and place of birth 15th March 1984 · Ústí nad Labem, Czechia
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Czechia
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WORK EXPERIENCE

since 01/2020 **Postdoc researcher** at the Interplanetary matter department
Astronomical Institute, The Czech Academy of Sciences, Ondřejov, Czechia
06/2019–10/2019 **Tour guide** at Northern Hikes s. r. o., Praha, Czechia
04/2018–04/2019 **Freelance lecturer** at Mobile planetarium z.ú., Praha, Czechia
12/2017–01/2018 **Freelance proofreader** at Alza.cz a.s., Praha, Czechia
01/2016–08/2017 **Research scholar** at the Aeronautics & Astronautics
University of Washington, Seattle, WA, USA
01/2014–12/2015 **Postdoc researcher** at the Interplanetary matter department
Astronomical Institute, The Czech Academy of Sciences, Ondřejov, Czechia
02/2013–12/2013 **Researcher** at the Dept. of Theoretical Physics and Astrophysics
Faculty of Science, Masaryk University, Brno, Czechia
02/2009–12/2013 **Researcher and technical maintainer** at the Center for Biomedical
Image Analysis, Faculty of Informatics, Masaryk University, Brno,
Czechia
07/2009–09/2012 **Doctoral student** at the Interplanetary matter department
Astronomical Institute, The Czech Academy of Sciences, Ondřejov, Czechia

EDUCATION

2008–2013 **Ph.D. in Astrophysics**
Dept. of Theoretical Physics and Astrophysics
Faculty of Science, Masaryk University, Brno, Czechia
Thesis Supervisor: Petr Pravec
Title: Excitation of asteroid rotations through impacts
2006–2008 **Mgr. (equiv. to M.Sc.) in Astrophysics**
Faculty of Science, Masaryk University, Brno, Czechia
2003–2006 **Bc. in Applied physics – Astrophysics**
Faculty of Science, Masaryk University, Brno, Czechia

SKILLS

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| Languages | Czech (native), English (fluent), German (beginner) |
| Computer | FORTRAN, Mathematica, Bash, Awk, Octave, Tcl/Tk, LaTeX, Maple, HTML/CSS, various Linux distributions, MS Windows |
| Driving licence | B category |

RESEARCH ACTIVITIES

- Parallel genetic algorithm optimization.
- Numerical modeling of meteoroid flight through atmosphere.
- Interpretation of asteroid family size distributions using impact scaling relations.
- Monte Carlo model for collisional evolution of asteroid sizes and spins.
- Subcatastrophic asteroid collisions computer model, statistical evolutionary model of asteroid rotation excitation.
- Simulations to study the origin of excited rotation of asteroids and interpretation of the simulation outcomes.
- Asteroid photometry observations.

RESEARCH INTERESTS

- meteoroid ablation and dynamics
- collisional physics of asteroid families
- evolution of asteroid rotations and shapes, collisions between asteroids, impact cratering
- tumbling asteroids – excited rotation, rotational dynamics
- binary asteroids – tidal effects, lightcurves of the binaries
- astronomical observation – photometry, astrometry; atmospheric effects distorting the observation
- confocal fluorescence microscopy – image acquisition, image analysis, correction of the image aberrations, PSF measurement, image deconvolution

OBSERVING PROPOSALS

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| Oct 2015 | Tycho Brahe P3, ESO/MPG 2.2m telescope, FEROS, La Silla Observatory, Chile; T. Henych, S. Czesla, C. Ginski, T. Klocova, V. Perdelwitz, T.O.B. Schmidt; Accretion and activity on the candidate planet hosting T Tauri star DH Tau |
| Nov 2014 | Tycho Brahe P1, ESO/MPG 2.2m telescope, WFI, La Silla Observatory, Chile; T. Henych, T. Krejcova, S. Raetz, T.O.B. Schmidt; Multi-color photometric follow-up of the youngest planetary transit candidate CVSO 30 |

CONFERENCES, WORKSHOPS, SUMMER SCHOOLS

- 10/2016 **48th Division for Planetary Sciences Conference/11th European Planetary Science Congress** (contributed talk), Pasadena, CA, USA
- 03/2016 **47th Lunar and Planetary Science Conference** (poster), The Woodlands, TX, USA
- 02/2015 **Stardust ITN – Local training workshop: Collisions in the Solar System** (contributed talk), Belgrade, Serbia
- 06/2013 **8th Workshop on Catastrophic Disruption in the Solar System** (contributed talk) and **3rd Workshop on Binaries in the Solar System**, Hawai'i, The Big Island, USA
- 07/2010 **Advanced methods in optical fluorescence microscopy towards nanoscopy**, summer course of the International School of Physics 'Enrico Fermi' (Italian Physical Society), Varenna, Italy

OBSERVING EXPERIENCE

- 0.5m 10 nights (2012), photoelectric photometry, South African Astronomical Observatory Sutherland, South Africa
- 1.54m 10 nights (2009), CCD photometry, Danish Telescope, La Silla, ESO, Chile
- 0.6m 100 nights, Masaryk University Observatory, Brno, Czechia

TEACHING EXPERIENCE

- fall 2008– Teaching Assistant, Astronomical exercises (observation methods,
spring 2012 data processing)
- fall 2011, 2012 Teaching Assistant, Introductory astronomical course (introduction to astronomical observation)

POPULARIZATION

- lecturer at Mobile planetarium, z.ú., Prague
- Researchers night 2007 at Masaryk University, Brno
- “Noc bez CCD” and similar public events – Masaryk University Observatory, Brno

HOBBIES

hiking, travelling, photography, stargazing, music, chatting, learning and trying new things

LIST OF PUBLICATIONS

PAPERS (TINYURL.COM/KUKKWQB)

1. **Henych, T.**, Holsapple, K. A., 2018. Interpretations of family size distributions: The *Datura* example. *Icarus* 304, 127–134.
2. **Henych, T.**, Pravec, P., 2015. Slowly increasing elongations of non-spherical asteroids caused by collisions. *MNRAS* 454, 1704–1710.
3. Sebera, J. et al. (including **T. Henych**), 2015. Spheroidal models of the exterior gravitational field of Asteroids Bennu and Castalia. *Icarus* 272, 70–79.
4. Raetz, St. et al. (including **T. Henych**), 2015. YETI observations of the young transiting planet candidate CVSO 30 b. *MNRAS* 460, 2834–2852.
5. **Henych, T.**, Pravec, P., 2013. Asteroid rotation excitation by subcatastrophic impacts. *MNRAS* 432, 1623–1631.
6. Hanuš, J. et al. (including **T. Henych**), 2011. A study of asteroid pole-latitude distribution based on an extended set of shape models derived by the lightcurve inversion method. *A&A* 530. A134, 16pp.
7. Pravec, P. et al. (including **T. Henych**), 2010. Formation of asteroid pairs by rotational fission. *Nature* 466. 1085–1088.

ABSTRACTS OF TALKS, POSTERS

1. **Henych, T.**, Holsapple, K. A., October 2016. New insights into main belt asteroid collisional lifetimes. Contributed talk at 48th DPS/11th EPSC, Pasadena, CA, USA.
2. Holsapple, K. A., **Henych, T.**, March 2016. Let's spin'em all. Poster at 47th LPSC, The Woodlands, TX, USA.
3. **Henych, T.**, Pravec, P., June 2013. Asteroid rotation excitation by subcatastrophic impacts. Contributed talk at 8th Workshop on Catastrophic disruption in the Solar System. Hawai'i, The Big Island, USA.
4. Scheeres, D. et al. (including **T. Henych**), 2010. Asteroid Pairs Formed by Rotational Fission. In: *Bulletin of the American Astronomical Society, Division of Dynamical Astronomy Meeting #41*. p. 926.