Dmitry Savransky

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Research Interests

Dynamics and control theory, space exploration, computer vision, machine learning, exoplanets and planetary science.

Professional Experience

Associate Professor, Sibley School of Mechanical and Aerospace Engineering and Department of Astronomy, Cornell University, July 2021 - present
- Principal Investigator, Space Imaging and Optical Systems Laboratory
- Science Board member, Carl Sagan Institute
- Director of Graduate Studies, Aerospace Engineering (July 2023 -)
- Director of Graduate Studies, Theoretical and Applied Mechanics (Jan 2021 - June 2023)

Assistant Professor, Sibley School of Mechanical and Aerospace Engineering, Cornell University, January 2014 - June 2021

Visiting Research Scholar, University of California, Berkeley, October 2012 - December 2013
- Member of the Gemini Planet Imager Exoplanet Survey Science Team
- Conducted independent research on ground-based survey optimization

Postdoctoral Fellow, Physics Division, Lawrence Livermore National Laboratory, September 2011 - December 2013
- Assisted in the integration, testing and commissioning of the Gemini Planet Imager
- Conducted independent research on signal processing as applied to exoplanet imaging

Research Support Specialist, Cornell University and JPL, May 2005 - July 2006
- Payload Uplink/Downlink Lead for the Panoramic Cameras (Pancams) on the Mars Exploration Rovers (MER)

Research and Support for Mars Odyssey and MER, Cornell University, January 2003 - July 2006
- Developed and maintained data reduction algorithms for the THEMIS and Pancam instruments; built and maintained computer systems used for data processing
- Authored software for measuring chromaticity and generating true color images from MER Pancam data; helped design and maintain the MER Pancam website

Education

Princeton University, Princeton, NJ USA
School of Engineering and Applied Science
PhD, Mechanical and Aerospace Engineering, September 2011
- Advisor: N. Jeremy Kasdin
- Major Area: Dynamics and Controls, Minor Area: Machine Learning
- Thesis: *Exosystem Modeling for Mission Simulation and Survey Analysis*

Cornell University, Ithaca, NY USA
Sibley School of Mechanical and Aerospace Engineering
M. Eng, Aerospace Engineering, January 2005
B.S., Mechanical Engineering, May 2004

External Funding

Parenthetical budget portions are the amounts allocated to SIOSlab. If no portion is given, the full budget went to SIOSlab.

Current

Period	Source	Title	Role	Budget (portion)
10/2023 - 9/2026	NASA (ADSPS)	Open Source Tools for Mapping Exoplanet Science Goals to Architecture Properties of the IR/O/UV Great Observatory	co-PI	$774,428 ($435,766)
10/2023 - 9/2026	NASA (Roman)	Target Selection and Observation Modeling Tools for the Roman Coronagraph Technology Demonstration and Beyond	PI	$599,804
9/2023 - 8/2026	AFOSR	Starlift: Logistics Networks for Persistent, Ensured Superiority in Cislunar Space	PI	$5,000,000 ($973,345)
10/2022 - 9/2024	JPL (SURP)	Starshade Scenario Options Analysis for Large UV/O/IR Observatory	PI	$120,000 ($110,000)
3/2022 - 2/2024	NRC Canada	Focal Plane Wavefront Sensing and Control for the GPI CAL 2.0	PI	$146,660
9/2019 - 8/2024	NSF (MRI)	MRI: Development of the Gemini Planet Imager Upgrade	co-PI	$2,613,959 ($359,161)[†]

[†] These numbers do not include the mandatory program 30% cost share.

Past

10/2019 - 10/2024	NASA (ECF)	Sub-Pixel Inter-Satellite Imagery Cross-Calibration via Image Decomposition and Dynamic Filtering	PI	$576,458
8/2022 - 12/2022	JPL	EXOTAC (Exoplanets Science Evaluation Team)	PI	$65,000
1/2016 - 10/2021	NASA (WFIRST SIT)	Optimizing WFIRST Coronagraph Science	co-I	$3,665,302 ($503,907)
12/2018 - 9/2021	JPL (SURP)	Advanced Simulation and Modeling for Starshade-based Exoplanet Imaging Missions	co-PI	$180,000 ($141,006)
6/2018 - 2/2019	NASA (NIAC)	Modular Active Self-assembling Space Telescope Swarms	PI	$125,000
4/2016 - 4/2019	NASA (ROSES XRP)	Enhanced Exoplanet Detection Via Blind Source Separation	PI	$329,535 ($292,465)
4/2015 - 4/2017	NASA (ROSES WPS)	Science Yield Modeling for the WFIRST-AFTA Coronagraph	PI	$323,192

12/2016 - 9/2017	JPL (SURP)	Formulation of a Zodiacal Light Imaging Mission	co-PI	$25,000 ($20,000)
4/2016 - 6/2017	Mathworks Inc.	Development of Online Course Materials for Spacecraft Engineering Curriculum	co-PI	$40,000 ($20,000)
4/2014 - 4/2015	NASA (GSFC)	Simulating Exoplanet Science Yield for the WFIRST-AFTA Coronagraph	PI	$15,000
Total				$14,599,338 ($4,707,765)

Unfunded Collaborator

- Giant Planet Demographics from an Analysis of the Gaia Astrometric Survey. PI: B. Macintosh (Stanford)
- mDOT: Miniature Distributed Occulter Telescope for characterizing extrasolar dust disks. PI: B. Macintosh (Stanford)
- Starshade Rendezvous Mission. PI: S. Seager (MIT)
- The Gemini Planet Imager Exoplanet Survey: Completion and Analysis. PI: B. Macintosh (Stanford)
- The Gemini Planet Imager Exoplanet Survey. PI: B. Macintosh (Stanford)

Awards and Honors

- NASA Astronomy and Physics Directorate Exoplanet Exploration Program Award, *"For outstanding contributions to exoplanet yield modeling"*, 2023
- Dennis G. Shepherd Excellence in Teaching Award, 2021
- NASA Group Achievement Award, Exoplanet Standard Definition and Evaluation Team, 2020
- NASA Early Career Faculty, 2019
- Invited Speaker, Center for Adaptive Optics Fall Retreat 2018
- James and Mary Tien Excellence in Teaching Award, 2017
- Invited Speaker, National Academy of Engineering US Frontiers of Engineering Conference 2015
- Physical and Life Sciences Directorate Award, 2013, LLNL
- Physics Division Spot Award, 2012, LLNL
- Wu Prize for Excellence, Princeton University, Fall 2010
  Awarded by the School of Engineering and Applied Science of Princeton University for upper-year graduate students who have performed at the highest level of courses, research and teaching.
- Professor Martin Summerfield Memorial Graduate Fellowship, Princeton University, Fall 2007
- Cummins Merit Fellowship for Engineering Graduate Students, Princeton University, 2006 - 2007
- NASA Group Achievement Award, MER Second Extended Mission, 2005

Professional Affiliations and Service

External Engagement

- Great Observatory Maturation Program (GOMAP) Science, Technology, Architecture Review Team (START) member, 2023 - present
- Nancy Grace Roman Space Telescope Coronagraph Community Participation Program (CPP) Team Member, 2023 - present (co-chair 2023-2024)
- Co-chair of Exoplanet Yield Modeling Tools Workshop, splinter session at AAS 242

- Reviewer for the 2020 decadal survey in astronomy and astrophysics, Panel on Electromagnetic Observations from Space 1
- Executive Committee Member, NASA Exoplanet Program Analysis Group (ExoPAG; 2019 - 2022)
- Charter member of the NASA Exoplanet Exploration Program's Standard Definitions and Evaluation Team for the 2020 Astrophysics Decadal Survey (2017 - 2020)
- Member of the Gemini Planet Imager Exoplanet Survey Science Steering Committee (2015 - present)
- AURA Alternate Member Representative for Cornell University (2017 - present)
- Acting NY State Space Grant Director, January - June, 2020

Professional Organization Membership

- SPIE (2008 - present)
  - Senior member (2023 - present)
  - Conference committee and session chair for Space Telescopes and Instrumentation 2022: Optical, Infrared, and Millimeter Wave
- American Astronomical Society (2007 - present)
  - Session chair for AAS 225, January 2015
- Optica (formerly OSA; 2014 - present)
- American Institute of Aeronautics and Astronautics (2017 - present)
  - Senior member (2023 - present)
  - Faculty advisor for Cornell AIAA Student Chapter (2017 - 2022)

Peer Review

- The Astrophysical Journal
- Publications of the Astronomical Society of the Pacific
- Applied Optics
- Optics Express
- Journal of Guidance, Control, and Dynamics
- Journal of Astronomical Telescopes, Instruments, and Systems
- Optik
- Journal of the Optical Society of America A
- Journal of Spacecraft and Rockets
- IEEE Transactions on Aerospace and Electronic Systems
- IEEE Robotics and Automation Letters
- IEEE Access
- Control Engineering Practice
- Springer (textbook)
- Elsevier (textbook)
- Cambridge University Press (textbook)
- Ad-hoc and panel reviewer for NSF
- Ad-hoc and panel reviewer for NASA

University Service

Sibley School

- Computational Engineering Search Committee (Fall 2023 - Spring 2024)
- Spacecraft System Professor of Practice Search Committee Chair (2019 - 2020)
- Academic Committee (Fall 2018 - Spring 2021)
- Undergraduate Program Committee (Fall 2016 - Spring 2018)
- Spacecraft Engineering Search Committee (two searches, Fall 2016 - Spring 2018)
- Colloquium Committee (Fall 2014 - Spring 2015)
- Dynamics, Systems and Control Group Q and TAM Q Committee (Spring 2014 - present)
- Dynamics, Systems and Control Group Admissions Committee (Spring 2014 - present)

College of Engineering

- First-year advising ENGR 1050 (Fall 2015, 2023)

Teaching

Faculty, Cornell University

Numbers in parentheses represent final course enrollments.

- **MAE 2030: Dynamics**, Spring 2015 (174), 2016 (134), 2017 (144). Required course.
- **MAE 4060/5065: Introduction to Spaceflight Mechanics**, Fall 2016 (55), 2018 (31), 2019 (38), 2020 (45), 2021 (50); Developed into eCornell certificate program.
- **MAE 6530: Space Exploration Engineering**, Spring 2019 (22), 2021 (19), Fall 2023 (9). Newly developed course.
- **MAE 6720/Astro 6579: Advanced Astrodynamics and Celestial Mechanics**, Spring 2014 (14), 2018 (18), 2020 (8), 2022 (14)
- Instructor for Cornell SmallSat Mission Design School, Summer 2021, 2022

Teaching Assistant, Princeton University

- **Space Systems Design**, Spring 2010, Junior/Senior level
- **Introduction to Engineering Dynamics**, Spring 2009, Sophomore level
- **Mathematical Methods of Engineering Analysis**, Fall 2008, Required first year graduate course on real analysis, calculus of variations, Hilbert spaces and linear algebra
- **Integrated Engineering Math and Physics**, Spring 2008
  Introduced freshmen to programming and data analysis using MATLAB and developed and ran the robotics and remote sensing lab module

Teaching Transcript, McGraw Center, Princeton University, 2011
Teaching development program consisting of workshops and classroom observation

Senior Thesis Writing Group Leader, Princeton University, 2010 - 2011
Created and ran a year-long series of workshops and writing sessions on experimental design, science writing, creating presentations, and typesetting with LaTeX for seniors in the Mechanical and Aerospace Engineering department

Princeton Writing Center Fellow, February 2007 - May 2010
Met weekly with students from various departments and disciplines to work on their essays, research papers and theses, and attended regular teaching/mentoring workshops

Graduate Field Memberships

- Mechanical Engineering (primary)
- Aerospace Engineering
- Theoretical and Applied Mechanics
- Astronomy
- Center for Applied Mathematics

Advising

Current Ph.D. and M.S. Students

Duan Li (PhD, 2018 -)
Jackson Kulik (PhD, 2020 -)
Grace Genszler (PhD, 2020 -)
Rachel Oliver (PhD, 2020 -)
Colby Merrill (PhD, 2022 -)
Sachin Kelkar (MS, 2022 -)
Ashhad Ameer Badarudeen (MS, 2022 -)

Graduated Ph.D. and M.S. Students

- Corey Spohn (PhD, 2018 - 2023): *Planning Direct Imaging Observations of Exoplanet with Precursor Data*
- Zvonimir Stojanovski (PhD, 2020 - 2023): *Nonlinear Filtering with Applications to Astrodynamics*
- Kaitlyn Summey (MS, 2019 - 2022): *Defining Pupil Knowledge Requirements for Roman Space Telescope Integrated Payload Assembly Testing*
- Dean Keithly (PhD, 2016 - 2021): *Evaluating and Scheduling Exoplanet Direct Imaging Missions*
- Wenbo Lou (MS, 2018-2021): *Design of High Precision Indoor Localization Algorithm with Kalman Filter and Motion Control Scheme for an Autonomous Mobile Robot*
- Jacob Shapiro (PhD, 2015 - 2020): *Using Modern Mathematical and Computational Tools for Image Processing*
- Gabriel Soto (PhD, 2015 - 2020): *Orbital Design Tools and Scheduling Techniques for Optimizing Space Science and Exoplanet-Finding Missions*

- Daniel Garrett (PhD, 2014 - 2018): *Exoplanet Direct Imaging Detection Metrics and Exoplanet Populations*
- Joyce Fang (PhD, 2013 - 2018): *Online Model-based Estimation for Automated Optical System Alignment and Phase Retrieval Algorithm*

Ph.D. and M.S. Minor Committee Member

- Bianca Margara (PhD, Aerospace Engineering; Advisor: Alex Hayes; 2022 -)
- Kathryn Chapman (PhD, Astronomy; Advisor: Nicholas Battaglia, 2021 -)
- Trevor Foote (PhD, Astronomy; Advisor: Nikole Lewis; 2020 -)
- Josephine Monica (PhD, Mechanical Engineering; Advisor: Mark Campbell; 2019 - 2023); *Perception and Control in Autonomous Mobile Robots*
- Kalani Danas Rivera (PhD, Aerospace Engineering; Advisor: Mason Peck; 2019 - 2022); *Planetary Images for Spacecraft State Estimation*
- Doga Yucalan (PhD, Aerospace Engineering; Advisor: Mason Peck; 2017 - 2022); *Autonomous Navigation of Relativistic Spacecraft: Theory and Applications*
- Jane Shin (PhD, Mechanical Engineering; Advisor: Silvia Ferrari; 2021); *Information-driven multi-view path planning for underwater target recognition*
- Matthew Walsh (PhD, Aerospace Engineering; Advisor: Mason Peck; 2016 - 2020); *Towards General Techniques for Autonomous Rendezvous*
- Van Hunter Adams (PhD, Aerospace Engineering; Advisor: Mason Peck; 2016 - 2019); *Theory and Applications of Gram-Scale Spacecraft*
- Jack H. Madden (PhD, Astronomy; Advisor: Lisa Kaltenegger; 2015 - 2020); *The Color of Habitability*
- Ryan Caracciolo (MS, Aerospace Engineering; Advisor: Mason Peck; 2015 - 2016)
- Lucas De La Graza (MS, Mechanical Engineering; Advisor: Mark Campbell; 2015): *Multi-Object, Multi-Sensor Detection and Tracking of Pedestrians on a Mobile Robot*

Graduated MEng Students

- Aastha Acharya (2014 - 2015): *Direct Imaging of Radial Velocity Exoplanets*
- James Lee (2016 - 2017): *Coded Aperture Ranging Techniques*
- Daniel Wilentz and Willard Andrews (2016 - 2017): *Numerical Methods for Prioritization of Exoplanet Imaging*
- Allegra Moran (2016 - 2017; co-advised with Daniel Selva): *Satellite Design GUIs*
- Dante Del Terzo (2017 - 2018): *Design of a 4U CubeSat for Face-On Imaging of the Zodiacal Dust Cloud from Outside the Ecliptic Plane*
- Michael Wang (2017 - 2018): *Coded Aperture Ranging*; Best graduate poster at the 2018 St. Lawrence Section meeting of the American Society for Engineering Education
- CU-Gravity Team (2017 - 2018): Jose Del Peso Sanchez, Michael Forstmann, Nathan Hofmeister, Xiao Ares, Jeffrey LaRocco, David Rothstein
- Erik Gustafson (2018 - 2019): *Launch, Rendezvous and Docking Analysis for a Modular Self-Assembling Space Telescope*
- Jeremy Turner (2018 - 2019): *Building an Integration Time Calculator for the WFIRST Coronagraphic Instrument*
- CCAT-p Wall-Climbing Robot Team (2018 - 2019): Hyunji Kim, Ruohan (Ryan) Gao, Seth McCall, Narahari Iyengar, Alex Zhou, Zijie Chen, Kevin Liu, Becca Lublin, Xiaotian Liu
- CCAT-p Wall-Climbing Robot Team (2019-2020): Jason Ochs, Christopher Della Santina, Hansheng Zhang, Yuetong Liu, Phil Si
- Nathaniel Kinzly and Sam Feibel (2020): *Satellite Image Filtering*
- Sarah Richter (2021): *STOP Analysis for a Spacecraft Camera Distortion Model*
- Thomas Taffe and Van Cates (2021): *Geometry Cross-Calibration of Orbiting Satellite Swarms*
- Jayson Figueroa (2021): *EXOSIMS Separate Mass Decrement Enhancement*
- Brynn Szczesniak (2021): *Imaging Mission Database Development*

- Evan Wilt (2021 - 2022): *Satellite Filter Project: Camera State Model*
- Max Yasgur (Fall 2022): *Design of Fuel-Optimal Low-Thrust Trajectories to Service the James Webb Space Telescope*

Undergraduate Researchers

- Owen Sorber (Fall 2021)
- William Balmer (Summer 2020; Amherst College Summer Intern)
- Christian Harris (Summer 2020; Astronomy REU)
- Robert Whitney (2019 - 2020; Senior Design)
- Nathaniel Kinzly (2018 - 2020; Senior Design)
- Xuechun (Bob) Qian (2018 - 2020)
- Aparajito Saha (2020)
- Krithik Ranjan (2020)
- Sparsh Gupta (2019)
- Bryan Zin (2019)
- Jose De La Pena (Summer 2019; LSAMP REU)
- Carlos Gascón Álvarez (2019; Visiting UPC Student)
- Anthony Aguilar (2019; Senior Design)
- Christopher Della Santina (2017 - 2019)
- Aaron Brown (2017 - 2018)
- Niharika Shukla (2017 - 2018)
- Xinwei Liu (2017 - 2018)
- Jeremy Iver (Summer 2017)
- Nikhil Ranganathan (2016 - 2017; 2019; Senior Design)
- Patrick Voorhees (Summer 2016)
- Amlan Sinha (2016 - 2018; ELI recipient)
- James Haber (2015; ELI recipient)
- Alexandra Voinea (Summer 2015)

PUBLICATIONS

Database	Works Indexed	Citations	h-index
Google Scholar	286	6741	38
ADS	242 (75 refereed)	5202 (3038)	32 (27)
Web of Science	146	3570	30

Peer Reviewed Journal Articles

Principal Author: First authored works, significant contributions to text and/or direct supervision of first author. Underlined authors are PhD/postdoc advisees.

P35. Merrill, C. C., Geiger, C. J., Tahsin, A. T., **Savransky, D.**, and Peck, M. (2024) *Creating a contact binary via spacecraft impact to near-earth binary asteroid (350751) 2002 aw*. Acta Astronautica, **214**:629–640.

P34. Kulik, J., Clark, W., and **Savransky, D.** (2023) *State transition tensors for continuous-thrust control of three-body relative motion*. Journal of Guidance, Control, and Dynamics, pages 1–10.

P33. Li, D. and **Savransky, D.** (2023) *Image plane wavefront sensing and kalman filtering for automated alignment of off-axis aspherics*. J. Opt. Soc. Am. A, **40**(7):1327–1336.

P32. Kulik, J., Soto, G. J., and **Savransky, D.** (2022) *Minimal differential lateral acceleration configurations for starshade stationkeeping in exoplanet direct imaging*. Journal of Astronomical Telescopes, Instruments, and Systems, **8**(1):017003.

P31. Spohn, C., **Savransky, D.**, and Morgan, R. (2022) *Scheduling direct imaging observations based on radial velocity orbital fits: Best practices for translating orbits and failure modes*. The Astronomical Journal, **163**(4):163.

P30. Keithly, D. and **Savransky, D.** (2021) *The solar system as an exosystem: Planet confusion*. The Astrophysical Journal Letters, **919**(1):L11.

P29. Stojanovski, Z. and **Savransky, D.** (2021) *Higher-order unscented estimator*. Journal of Guidance, Control, and Dynamics, pages 1–13.

P28. Keithly, D., **Savransky, D.**, and Spohn, C. (2021) *Integration time adjusted completeness*. Journal of Astronomical Telescopes, Instruments, and Systems, **7**(3):1 – 54.

P27. Morgan, R. M., **Savransky, D.**, Turmon, M. J., Mennesson, B., Dula, W., Keithly, D., Mamajek, E. E., Newman, P., Plavchan, P., Robinson, T. D., et al. (2021) *Faster exo-earth yield for habex and luvoir via extreme precision radial velocity prior knowledge*. Journal of Astronomical Telescopes, Instruments, and Systems, **7**(2):021220.

P26. Soto, G. J., **Savransky, D.**, and Morgan, R. (2021) *Analytical model for starshade formation flying with applications to exoplanet direct imaging observation scheduling*. Journal of Astronomical Telescopes, Instruments, and Systems, **7**(2):1 – 32.

P25. Gascón, C., **Savransky, D.**, and Sureda, M. (2020) *Analytic stability maps of unknown exoplanet companions for imaging prioritization*. The Astronomical Journal, **160**(2):84.

P24. Keithly, D., **Savransky, D.**, Garrett, D., Delacroix, C., and Soto, G. J. (2020) *Optimal scheduling of exoplanet direct imaging single-visit observations of a blind search survey*. Journal of Astronomical Telescopes, Instruments, and Systems, **6**(2):027001.

P23. Shapiro, J., **Savransky, D.**, Ruffio, J.-B., Ranganathan, N., and Macintosh, B. (2019) *Detecting planets from direct-imaging observations using common spatial pattern filtering*. The Astronomical Journal, **158**(3):125.

P22. Soto, G. J., **Savransky, D.**, Garrett, D., and Delacroix, C. (2019) *Parameterizing the search space of starshade fuel costs for optimal observation schedules*. Journal of Guidance, Control, and Dynamics, **42**(12).

P21. Nielsen, E. L., De Rosa, R. J., Macintosh, B., Wang, J. J., Ruffio, J.-B., Chiang, E., Marley, M. S., Saumon, D., **Savransky, D.**, Ammons, S. M., Bailey, V. P., Barman, T., Blain, C., Bulger, J., Burrows, A., Chilcote, J., Cotten, T., Czekala, I., Doyon, R., Duchêne, G., Esposito, T. M., Fabrycky, D., Fitzgerald, M. P., Follette, K. B., Fortney, J. J., Gerard, B. L., Goodsell, S. J., Graham, J. R., Greenbaum, A. Z., Hibon, P., Hinkley, S., Hirsch, L. A., Hom, J., Hung, L.-W., Dawson, R. I., Ingraham, P., Kalas, P., Konopacky, Q., Larkin, J. E., Lee, E. J., Lin, J. W., Maire, J., Marchis, F., Marois, C., Metchev, S., Millar-Blanchaer, M. A., Morzinski, K. M., Oppenheimer, R., Palmer, D., Patience, J., Perrin, M., Poyneer, L., Pueyo, L., Rafikov, R. R., Rajan, A., Rameau, J., Rantakyrö, F. T., Ren, B., Schneider, A. C., Sivaramakrishnan, A., Song, I., Soummer, R., Tallis, M., Thomas, S., Ward-Duong, K., and Wolff, S. (2019) *The Gemini Planet Imager Exoplanet Survey: Giant Planet and Brown Dwarf Demographics from 10 to 100 au*. The Astrophysical Journal, **158**(1):13.

P20. Garrett, D., **Savransky, D.**, and Belikov, R. (2018) *Planet occurrence rate density models including stellar effective temperature*. Publications of the Astronomical Society of the Pacific, **130**(993):114403.

P19. Fang, J. and **Savransky, D.** (2018) *Wavefront reconstruction with defocus and transverse shift estimation using Kalman filtering*. Optics and Lasers in Engineering, **111**:122 – 129.

P18. Fang, J. and **Savransky, D.** (2018) *Amplitude and phase retrieval with simultaneous diversity estimation using expectation maximization*. J. Opt. Soc. Am. A, **35**(2):293–300.

P17. Wang, J. J., Perrin, M. D., **Savransky, D.**, Arriaga, P., Chilcote, J. K., De Rosa, R. J., Millar-Blanchaer, M. A., Marois, C., Rameau, J., Wolff, S. G., Shapiro, J., Ruffio, J.-B., Maire, J., Marchis, F., Graham, J. R., Macintosh, B., Ammons, S. M., Bailey, V. P., Barman, T. S., Bruzzone, S., Bulger, J., Cotten, T., Doyon, R., Duchêne, G., Fitzgerald, M. P., Follette, K. B., Goodsell, S., Greenbaum, A. Z., Hibon, P., Hung, L.-W., Ingraham, P., Kalas, P., Konopacky, Q. M., Larkin, J. E., Marley, M. S., Metchev, S., Nielsen, E. L., Oppenheimer, R., Palmer, D. W., Patience, J., Poyneer, L. A., Pueyo, L., Rajan, A., Rantakyrö, F. T., Schneider, A. C., Sivaramakrishnan, A., Song, I., Soummer, R., Thomas, S., Wallace, J. K., Ward-Duong, K., and Wiktorowicz, S. J. (2018) *Automated data processing architecture for the Gemini Planet Imager Exoplanet Survey*. Journal of Astronomical Telescopes, Instruments, and Systems, **4**(1):1 – 14.

P16. Garrett, D., **Savransky, D.**, and Macintosh, B. (2017) *A simple depth-of-search metric for exoplanet imaging surveys*. The Astronomical Journal, **154**(2):47.

P15. Fang, J. and **Savransky, D.** (2016) *Automated alignment of a reconfigurable optical system using focal-plane sensing and Kalman filtering*. Applied Optics, **55**(22):5967–5976.

P14. Garrett, D. and **Savransky, D.** (2016) *Analytical formulation of the single-visit completeness joint probability density function*. The Astrophysical Journal, **828**(1):20.

P13. Poyneer, L. A., Palmer, D. W., Macintosh, B., **Savransky, D.**, Sadakuni, N., Thomas, S., Véran, J.-P., Follette, K. B., Greenbaum, A. Z., Ammons, S. M., Bailey, V. P., Bauman, B., Cardwell, A., Dillon, D., Gavel, D., Hartung, M., Hibon, P., Perrin, M. D., Rantakyrö, F. T., Sivaramakrishnan, A., and Wang, J. J. (2016) *Performance of the Gemini Planet Imager's adaptive optics system*. Applied Optics, **55**(2):323–340.

P12. Stark, C. C., Shaklan, S., Lisman, D., Cady, E., **Savransky, D.**, Roberge, A., and Mandell, A. M. (2016) *Maximized exoearth candidate yields for starshades*. Journal of Astronomical Telescopes, Instruments, and Systems, **2**(4):041204.

P11. **Savransky, D.** and Garrett, D. (2015) *WFIRST-AFTA coronagraph science yield modeling with EXOSIMS*. Journal of Astronomical Telescopes, Instruments, and Systems, **2**(1):011006.

P10. **Savransky, D.** (2015) *Sequential covariance calculation for exoplanet image processing*. The Astrophysical Journal, **800**(2):100.

P9. **Savransky, D.**, Thomas, S. J., Poyneer, L. A., and Macintosh, B. A. (2013) *Computer vision applications for coronagraphic optical alignment and image processing*. Applied Optics, **52**(14):3394–3403.

P8. Belbruno, E., Moro-Martín, A., Malhotra, R., and **Savransky, D.** (2012) *Chaotic exchange of solid material between planetary systems: implications for lithopanspermia*. Astrobiology, **12**(8).

P7. **Savransky, D.**, Cady, E., and Kasdin, N. J. (2011) *Parameter distributions of Keplerian orbits*. The Astrophysical Journal, **728**(1):66.

P6. **Savransky, D.**, Kasdin, N. J., and Cady, E. (2010) *Analyzing the designs of planet finding missions*. Publications of the Astronomical Society of the Pacific, **122**(890):401–419.

P5. **Savransky, D.** and Kasdin, N. J. (2010) *Simulation and analysis of sub-μas precision astrometric data for planet finding*. The Astrophysical Journal, **721**(2):1559.

P4. McConnochie, T. H., Bell III, J. F., **Savransky, D.**, Wolff, M., Toigo, A., Wang, H., Richardson, M., and Christensen, P. (2010) *THEMIS-VIS observations of clouds in the martian mesosphere: Altitudes, wind speeds, and decameter-scale morphology*. Icarus, **210**(2):545 – 565.

P3. McConnochie, T., Bell III, J., **Savransky, D.**, Mehall, G., Caplinger, M., Christensen, P., Cherednik, L., Bender, K., and Dombovari, A. (2006) *Calibration and in-flight performance of the Mars Odyssey Thermal Emission Imaging System visible imaging subsystem (THEMIS VIS)*. Journal of geophysical research, **111**(E6):E06018.

P2. Bell III, J. F., Joseph, J., Sohl-Dickstein, J. N., Arneson, H. M., Johnson, M. J., Lemmon, M. T., and **Savransky, D.** (2006) *In-flight calibration and performance of the Mars Exploration Rover Panoramic Camera (Pancam) instruments*. Journal of Geophysical Research, **111**(E2):E02S03.

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Collaborating Author: Secondary contributions to text.

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T1. Spergel, D., Gehrels, N., Breckinridge, J., Donahue, M., Dressler, A., Gaudi, B. S., Greene, T., Guyon, O., Hirata, C., Kalirai, J., Kasdin, N. J., Moos, W., Perlmutter, S., Postman, M., Rauscher, B., Rhodes, J., Wang, Y., Weinberg, D., Centrella, J., Traub, W., Baltay, C., Colbert, J., Bennett, D., Kiessling, A., Macintosh, B., Merten, J., Mortonson, M., Penny, M., Rozo, E., **Savransky, D.**, Stapelfeldt, K., Zu, Y., Baker, C., Cheng, E., Content, D., Dooley, J., Foote, M., Goullioud, R., Grady, K., Jackson, C., Kruk, J., Levine, M., Melton, M., Peddie, C., Ruffa, J., and Shaklan, S. (2013) *Wide-Field InfraRed Survey Telescope-Astrophysics Focused Telescope Assets WFIRST-AFTA Final Report*. arXiv preprint arXiv:1305.5422.

Popular Press and Review Articles

R3. **Savransky, D.** (2015) *Starlight Suppression: Technologies for the Direct Imaging of Exoplanets*. The Bridge, **45**(4):16–21.

R2. Konopacky, Q., Barman, T., Macintosh, B., Marois, C., and **Savransky, D.** (2014) *High-resolution spectroscopy of directly-imaged exoplanet atmospheres*. SPIE Newsroom.

R1. **Savransky, D.** (2013) *Automated scheduling for space-based exoplanet observatories*. SPIE Newsroom.

Presentations and Lectures

Invited Talks

21. 10/20/2020 - Sibley School of Mechanical and Aerospace Engineering Colloquium, Cornell University, Ithaca, NY

20. 10/16/2020 - Princeton Department of Mechanical & Aerospace Engineering Seminar, Princeton, NJ

19. 4/3/2019 - UC San Diego Astrophysics Colloquium, San Diego, CA

18. 4/4/2019 - UC Los Angeles Astronomy Seminar, Los Angeles, CA

17. 11/3/2018 - Plenary, CfAO Fall Retreat, Lake Arrowhead, CA

16. 9/26/2018 - NIAC Symposium, Boston, MA

15. 11/14/2017 - Exoplanet Seminar, NASA Goddard Space Flight Center, Greenbelt, MA

14. 04/20/2017 - Astronomy Colloquium, Cornell University, Ithaca, NY

13. 09/26/2016 - SCAN Seminar, Cornell University, Ithaca, NY

12. 11/2/2015 - University of Rochester Optics Colloquium, Rochester, NY
11. 09/09/2015 - 2015 National Academy of Engineering US Frontiers of Engineering Symposium, Irvine, CA
10. 04/14/2014 - Planet Lunch Seminar Series, Space Sciences, Cornell University, Ithaca, NY
9. 08/27/2013 - Invited Talk, SPIE Optics + Photonics 2013, San Diego, CA
8. 4/16/2013 - MAE Colloquium, Cornell University, Ithaca, NY
7. 12/13/2012 - Astronomy Colloquium, UC Davis, Davis, CA
6. 02/28/2012 - Astronomy Seminar, UC Berkeley, Berkeley, CA
5. 04/26/2011 - Science Colloquium, Goddard Space Flight Center, Greenbelt, MA
4. 12/08/2010 - Science Colloquium, Jet Propulsion Laboratory, Pasadena, CA
3. 11/30/2010 - Exoplanet Seminar, American Museum of Natural History, New York, NY
2. 06/21/2010 - Science Colloquium, Space Telescope Science Institute, Baltimore, MA
1. 09/29/2009 - Invited Talk, Statistical Frontiers of Astrophysics, IPMU, Kashiwa, U.Tokyo

Oral Presentations and Posters

A58. Genszler, G. and **Savransky, D.** (2023) *Impact of Local Zodiacal Light on Yield Estimates for Direct Imaging Exoplanets*. In *American Astronomical Society Meeting Abstracts*, volume 55 of *American Astronomical Society Meeting Abstracts*, page 164.05.

A57. Li, D., **Savransky, D.**, Thompson, W., and Marois, C. (2023) *Speckle Nulling for High Contrast Imaging on a Self Coherent Camera*. In *American Astronomical Society Meeting Abstracts*, volume 55 of *American Astronomical Society Meeting Abstracts*, page 305.02.

A56. Morgan, R., Damiano, M., Hu, R., Mennesson, B., Mamajek, E., **Savransky, D.**, Stapelfeldt, K., Turmon, M., and Robinson, T. (2023) *An approach for calculating exo-Earth yield of a 6 m IR/O/UV telescope for various broad bandwidth metrics*. In *American Astronomical Society Meeting Abstracts*, volume 55 of *American Astronomical Society Meeting Abstracts*, page 146.01.

A55. Spohn, C. and **Savransky, D.** (2023) *Optimizing exoplanet direct imaging observations with precursor radial velocity data*. In *American Astronomical Society Meeting Abstracts*, volume 55 of *American Astronomical Society Meeting Abstracts*, page 116.08D.

A54. Stojanovski, Z. and **Savransky, D.** (2023) *Astrometric Orbit Estimation and Prediction for Exoplanets using Unscented Filters*. In *American Astronomical Society Meeting Abstracts*, volume 55 of *American Astronomical Society Meeting Abstracts*, page 247.04.

A53. Keithly, D. and **Savransky, D.** (2022) *Direct Imaging Orbit Fits In Two Detections*. In *Bulletin of the American Astronomical Society*, volume 54, page 102.134.

A52. Morgan, R., Mennesson, B., Mamajek, E., **Savransky, D.**, Stapelfeldt, K., Turmon, M., and Robinson, T. (2022) *What does the Decadal recommended 25 HZ exoplanet spectra mean?* In *Bulletin of the American Astronomical Society*, volume 54, page 102.144.

A51. Morgan, R., Mennesson, B., **Savransky, D.**, Turmon, M., Mamajek, E., Robinson, T., and Stapelfeldt, K. (2022) *Sensitivity of exo-Earth yield of a 6 m IR/O/UV telescope to bandwidth, SNR, and spectral resolution*. In *American Astronomical Society Meeting Abstracts*, volume 54 of *American Astronomical Society Meeting Abstracts*, page 430.06.

A50. Morgan, R., **Savransky, D.**, Turmon, M., Mennesson, B., Dula, W., Mamajek, E., Newman, P., Plavchan, P., Robinson, T., and Roudier, G. (2021) *Impact of Prior Knowledge on Direct Imaging Mission Yield*. In *American Astronomical Society Meeting Abstracts*, volume 53 of *American Astronomical Society Meeting Abstracts*, page 416.04.

A49. Keithly, D. and **Savransky, D.** (2020) *Exoplanet classification probabilities from initial detections in a direct imaging mission*. In *American Astronomical Society Meeting Abstracts*, volume 52, page 280.03.

A48. Shapiro, J., **Savransky, D.**, and Ruffio, J. (2020) *Identifying exoplanets with common spatial pattern filtering and a forward model matched filter*. In *American Astronomical Society Meeting Abstracts*, volume 52, page 342.04.

A47. Soto, G., **Savransky, D.**, Garrett, D., Keithly, D., and Delacroix, C. (2020) *Fuel cost heuristics for starshade retargeting slew maneuvers*. In *American Astronomical Society Meeting Abstracts*, volume 52, page 126.04.

A46. Spohn, C. and **Savransky, D.** (2020) *Dynamically scheduling direct imaging missions*. In *American Astronomical Society Meeting Abstracts*, volume 52, page 280.01.

A45. Keithly, D., **Savransky, D.**, Garrett, D., and Morgan, R. (2019) *Blind Search Single-Visit Exoplanet Direct Imaging Yield for Space Based Telescopes*. In *American Astronomical Society Meeting Abstracts #233*, volume 233 of *American Astronomical Society Meeting Abstracts*, page 140.40.

A44. Morgan, R., Mennesson, B., **Savransky, D.**, Mamajek, E. E., Shaklan, S., Stapelfeldt, K. R., Turmon, M., and Dula, W. (2019) *Updated Standard Evaluation of exoplanet Yield for the LUVOIR and HabEx Concept Studies*. In *American Astronomical Society Meeting Abstracts*, volume 51 of *American Astronomical Society Meeting Abstracts*, page 403.06.

A43. Morgan, R., Mennesson, B., **Savransky, D.**, Mamajek, E. E., Stapelfeldt, K., Turmon, M., and Dula, W. (2019) *Standard Evaluation of exoplanet Yield for the LUVOIR and HabEx Concept Studies*. In *American Astronomical Society Meeting Abstracts #233*, volume 233 of *American Astronomical Society Meeting Abstracts*, page 237.06.

A42. Nielsen, E., De Rosa, R., Macintosh, B., Wang, J., Ruffio, J.-B., Chiang, E., Marley, M., Saumon, D., **Savransky, D.**, Fabrycky, D., Konopacky, Q., Patience, J., and Bailey, V. (2019) *The Gemini Planet Imager Exoplanet Survey: Giant Planet and Brown Dwarf Demographics from 10-100 AU*. In *AAS/Division for Extreme Solar Systems Abstracts*, volume 51 of *AAS/Division for Extreme Solar Systems Abstracts*, page 100.02.

A41. **Savransky, D.**, Garrett, D., Keithly, D., Bailey, V., Batalha, N. E., Lewis, N. K., Marley, M., and Macintosh, B. (2019) *Simulating Known Exoplanet Orbits for WFIRST CGI Imaging*. In *American Astronomical Society Meeting Abstracts #233*, volume 233 of *American Astronomical Society Meeting Abstracts*, page 402.04.

A40. Shapiro, J., **Savransky, D.**, Keithly, D., Soto, G. J., Della Santina, C., and Gustafson, E. (2019) *Optical Design of a Large Segmented Space Telescope*. In *American Astronomical Society Meeting Abstracts #233*, volume 233 of *American Astronomical Society Meeting Abstracts*, page 157.23.

A39. Soto, G. J., **Savransky, D.**, Gustafson, E., Shapiro, J., Keithly, D., and Della Santina, C. (2019) *Navigation and Orbit Phasing of Modular Spacecraft for Segmented Telescope Assembly about Sun-Earth L2*. In *American Astronomical Society Meeting Abstracts #233*, volume 233 of *American Astronomical Society Meeting Abstracts*, page 157.20.

A38. Garrett, D. and **Savransky, D.** (2018) *Building Better Planet Populations for EXOSIMS*. In *American Astronomical Society Meeting Abstracts #231*, volume 231 of *American Astronomical Society Meeting Abstracts*, page 246.04.

A37. Keithly, D., Garrett, D., Delacroix, C., and **Savransky, D.** (2018) *WFIRST: Exoplanet Target Selection and Scheduling with Greedy Optimization*. In *American Astronomical Society Meeting Abstracts #231*, volume 231 of *American Astronomical Society Meeting Abstracts*, page 246.06.

A36. Soto, G., Garrett, D., Delacroix, C., and **Savransky, D.** (2018) *Starshade Observation Scheduling for WFIRST*. In *American Astronomical Society Meeting Abstracts #231*, volume 231 of *American Astronomical Society Meeting Abstracts*, page 246.11.

A35. Tallis, M., Bailey, V. P., Macintosh, B., Hayward, T. L., Chilcote, J. K., Ruffio, J.-B., Poyneer, L. A., **Savransky, D.**, Wang, J. J., and GPIES Team (2018) *Air, telescope, and instrument temperature effects on the Gemini Planet Imager's image quality*. In *American Astronomical Society Meeting Abstracts #231*, volume 231 of *American Astronomical Society Meeting Abstracts*, page 361.18.

A34. Wang, J. J., Graham, J., Perrin, M., Pueyo, L., **Savransky, D.**, Kalas, P., arriaga, P., Chilcote, J. K., De Rosa, R. J., Ruffio, J.-B., Sivaramakrishnan, A., and Gemini Planet Imager Exoplanet Survey Collaboration (2018) *The Automation and Exoplanet Orbital Characterization from the Gemini Planet Imager Exoplanet Survey*. In *American Astronomical Society Meeting Abstracts #231*, volume 231 of *American Astronomical Society Meeting Abstracts*, page 329.04.

A33. Garrett, D. and **Savransky, D.** (2017) *Analytical Methods for Exoplanet Imaging Detection Metrics*. In *American Astronomical Society Meeting Abstracts*, volume 229 of *American Astronomical Society Meeting Abstracts*, page 146.12.

A32. Perrin, M. D., Follette, K. B., Millar-Blanchaer, M., Wang, J., Wolff, S., Hung, L.-W., Arriaga, P., **Savransky, D.**, Bailey, V. P., Bruzzone, S., Chilcote, J. K., De Rosa, R. J., Draper, Z., Fitzgerald, M. P., Greenbaum, A., Ingraham, P., Konopacky, Q. M., Macintosh, B., Marchis, F., Marois, C., Maire, J., Nielsen, E. L., Rajan, A., Rameau, J., Rantakyro, F., Ruffio, J.-B., Tran, D., Ward-Duong, K., Zalesky, J., and GPIES Team (2017) *Gemini Planet Imager Calibrations, Pipeline Updates, and Campaign Data Processing*. In *American Astronomical Society Meeting Abstracts*, volume 229 of *American Astronomical Society Meeting Abstracts*, page 146.04.

A31. Shapiro, J., Ranganathan, N., **Savransky, D.**, Ruffio, J.-B., Macintosh, B., and GPIES Team (2017) *Blind Source Separation Algorithms for PSF Subtraction from Direct Imaging*. In *American Astronomical Society Meeting Abstracts*, volume 229 of *American Astronomical Society Meeting Abstracts*, page 146.06.

A30. Soto, G., **Savransky, D.**, Garrett, D., Delacroix, C., and Sinha, A. (2017) *Starshade Orbital Maneuver Study for WFIRST*. In *American Astronomical Society Meeting Abstracts*, volume 229 of *American Astronomical Society Meeting Abstracts*, page 238.15.

A29. Garrett, D. and **Savransky, D.** (2016) *Science Yield Modeling with EXOSIMS*. In *American Astronomical Society Meeting Abstracts*, volume 227 of *American Astronomical Society Meeting Abstracts*, page 137.02.

A28. Morgan, R., Lowrance, P., **Savransky, D.**, and Garrett, D. (2016) *Exoplanet Yield Estimation for Decadal Study Concepts using EXOSIMS*. In *American Astronomical Society Meeting Abstracts*, volume 227 of *American Astronomical Society Meeting Abstracts*, page 305.01.

A27. Nielsen, E. L., Liu, M. C., Wahhaj, Z., Biller, B. A., Hayward, T. L., Close, L. M., Close, Macintosh, B., **Savransky, D.**, Wang, J. J., Graham, J. R., De Rosa, R. J., Rajan, A., and Rajan (2016) *Mapping the Distributions of Exoplanet Populations with NICI and GPI*. In J. H. Kastner, B. Stelzer, and S. A. Metchev, editors, *Young Stars & Planets Near the Sun*, volume 314 of *IAU Symposium*, pages 220–225.

A26. **Savransky, D.** and Garrett, D. (2016) *WFIRST-AFTA Cornoagraphic Instrument Science Yield Modeling Updates*. In *American Astronomical Society Meeting Abstracts*, volume 227 of *American Astronomical Society Meeting Abstracts*, page 206.01.

A25. Acharya, A. and **Savransky, D.** (2015) *Direct Imaging of Radial Velocity Exoplanets with the WFIRST-AFTA Coronagraph*. In *American Astronomical Society Meeting Abstracts*, volume 225 of *American Astronomical Society Meeting Abstracts*, page 258.14.

A24. Graham, J. R., Macintosh, B., Perrin, M. D., Ingraham, P., Konopacky, Q. M., Marois, C., Poyneer, L., Bauman, B., Barman, T., Burrows, A. S., Cardwell, A., Chilcote, J. K., De Rosa, R. J. J., Dillon, D., Doyon, R., Dunn, J., Erikson, D., Fitzgerald, M. P., Gavel, D., Goodsell, S. J., Hartung, M., Hibon, P., Kalas, P., Larkin, J. E., Maire, J., Marchis, F., Marley, M. S., McBride, J., Millar-Blanchaer, M., Morzinski, K. M., Nielsen, E. L., Norton, A., Oppenheimer, R., Palmer, D., Patience, J., Pueyo, L., Rantakyro, F., Sadakuni, N., Saddlemeyer, L., **Savransky, D.**, Serio, A. W., Soummer, R., Sivaramakrishnan, A., Song, I., Thomas, S., Wallace, J. K., Wang, J., Wiktorowicz, S., Wolff, S., and Gpi/Gpies Team (2015) *The Gemini Planet Imager*. In *American Astronomical Society Meeting Abstracts*, volume 225 of *American Astronomical Society Meeting Abstracts*, page 423.03.

A23. **Savransky, D.**, Acharya, A., Macintosh, B., and Gehrels, N. (2015) *Science Yield Modeling for the WFIRST-AFTA Coronagraph*. In *American Astronomical Society Meeting Abstracts*, volume 225 of *American Astronomical Society Meeting Abstracts*, page 423.06.

A22. Ammons, S., Macintosh, B., **Savransky, D.**, Marois, C., Neichel, B., Guyon, O., and Bendek, E. (2014) *On-sky tests of high precision astrometry and implications for exoplanet mass measurement*. In *Bulletin of the American Astronomical Society*, volume 223.

A21. Ammons, S. M., Bendek, E. A., Guyon, O., Macintosh, B., and **Savransky, D.** (2014) *Microarcsecond Astrometry with MCAO Using a Diffractive Mask*. In N. Haghighipour, editor, *Formation, Detection, and Characterization of Extrasolar Habitable Planets*, volume 293 of *IAU Symposium*, pages 369–374.

A20. Chilcote, J., Graham, J., Barman, T., Fitzgerald, M., Larkin, J., Macintosh, B., Bauman, B., Burrows, A., Cardwell, A., De Rosa, R., Dillon, D., Doyon, R., Dunn, J., Erikson, D., Gavel, D., Goodsell, S., Hartung, M., Hibon, P., Ingraham, P., Kalas, P., Konopacky, Q., Maire, J., Marchis, F., Marley, M., Mcbride, J., Millar-Blanchaer, M., Morzinski, K., Norton, A., Oppenheimer, B., Palmer, D., Patience, J., Pueyo, L., Rantakyro, F., Sadakuni, N., Saddlemyer, L., **Savransky, D.**, Serio, A., Soummer, R., Sivaramakrishnan, A., Song, I., Thomas, S., Wallace, K., Wiktorowicz, S., and Wolff, S. (2014) *Observations of Beta Pictoris b with the Gemini Planet Imager*. In *Thirty years of Beta Pic and Debris Disks Studies*.

A19. Macintosh, B., Kasdin, N., Shaklan, S., **Savransky, D.**, Carlotti, A., Vanderbei, R., Groff, T., Marchen, L., Krist, J., and Fitzgerald, M. (2013) *Performance and Scientific Capabilities of an Active Coronagraph on the 2.4-m NRO Telescopes*. In *Bulletin of the American Astronomical Society*, volume 221.

A18. **Savransky, D.**, Macintosh, B. A., Konopacky, Q. M., Barman, T. S., and Marois, C. (2013) *Wavelength-Diversity Derived Low Resolution Spectra of HR8799b*. In *Bulletin of the American Astronomical Society*, volume 221.

A17. **Savransky, D.**, Kasdin, N., Shaklan, S., and Cady, E. (2012) *Hybrid schemes for space-based planet-finding*. In *Bulletin of the American Astronomical Society*, volume 219.

A16. **Savransky, D.** and Kasdin, N. (2011) *Optimal Estimation for Exoplanet Data Streams*. In *American Astronomical Society Meeting Abstracts #217*, volume 43 of *Bulletin of the American Astronomical Society*, page 318.02.

A15. Kasdin, N., Spergel, D., Lisman, P., Shaklan, S., **Savransky, D.**, Cady, E., Vanderbei, R., Thomson, M., Martin, S., Balasubramamian, K., et al. (2010) *O3: The occulting ozone observatory*. In *Bulletin of the American Astronomical Society*.

A14. Kasdin, N., Spergel, D., Vanderbei, R., Cady, E., **Savransky, D.**, Lisman, D., Shaklan, S., Lee, R., Egerman, R., Matthews, G., et al. (2010) *A medium size mission for finding and characterizing terrestrial exoplanets with an external occulter and a conventional space telescope*. In *Bulletin of the American Astronomical Society*, volume 215.

A13. Kasdin, N., Spergel, D., Vanderbei, R., Shaklan, S., Lisman, D., **Savransky, D.**, Cady, E., and Soummer, R. (2010) *Occulter based missions of different scales for terrestrial planet imaging*. In *In the Spirit of Lyot 2010*, volume 1, page 79.

A12. Lisman, P., Kasdin, N., Spergel, D., Shaklan, S., **Savransky, D.**, Cady, E., Turner, E., Vanderbei, R., Thomson, M., and Martin, S. (2010) *O3: Occulting ozone observatory*. In *EGU General Assembly Conference Abstracts*, volume 12, page 14628.

A11. **Savransky, D.**, Groff, T. D., and Kasdin, N. J. (2010) *Experimental verification of bayesian planet detection algorithms with a shaped pupil coronagraph*. In *In the Spirit of Lyot*.

A10. Kasdin, N. and **Savransky, D.** (2009) *Dynamic filtering for the analysis of astrometric and radial velocity data sets for the detection of terrestrial exoplanets*. In *Bulletin of the American Astronomical Society*, volume 41, page 268.

A9. **Savransky, D.** and Kasdin, N. (2009) *Automated design reference mission generation for theia*. In *Bulletin of the American Astronomical Society*, volume 41, page 363.

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