

## Fall 2018 Applications Awarded Time

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**Richard Cartwright, Joshua Emery, Noemi Pinilla-Alonso**

Searching for seasonally-mobile CO<sub>2</sub> ice and NH<sub>3</sub>-hydrates on the large moons of Uranus

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**Paul Hardersen, Russell Genet**

Identifying basaltic asteroids in the outer main asteroid belt

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**Wei Zheng**

Diagnostics of the Evolution Sequence of Super-Massive Black Holes

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**Chick Woodward, Michael S.P. Kelley, David E. Harker, Diane H. Wooden, Michael L. Sitko, Silvia Protopapa**

The Wirtanen Campaign: MIRS/MOC Spectral-Imagery of 46P at Close Earth Approach

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**Chick Woodward, Mike S.P. Kelley, David Harker, Jon C. Mauerhan, Daryl L. Kim, Diane Wooden, Miike Sitko, Silvia Protopapa, Ray W. Russell**

The Wirtanen Campaign: The BASS Study of Dust and Rotational Variability in Comet 46P

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**Edo Berger, Sebastian Gomez, Matt Nicholl, Ryan Chornock, Peter Blanchard, Philip Cowperthwaite, Kate Alexander, Tarraneh Eftekhari, Wen-fai Fong, Raffaella Margutti, Brian Metzger, Ashley Villar, Peter Williams**

SpeX Near-Infrared Spectroscopy of Neutron Star Binary Mergers

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**Lauren McGraw, Josh Emery, Cristina Thomas, Andy Rivkin**

Search for 3-micron features on near-Earth Asteroids

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**Glenn Orton, Thomas Momary, James Sinclair, Rohini Giles, Leigh Fletcher, Henrik Melin, Yasumasa Kasaba, Hajime Kita, Takao Sato, Thomas Greathouse, Padma Yanamandra-Fisher, Scott Bolton, Steve Levin, Alberto Adriani, G. Randy Gladstone**

Mid-Infrared Observations to Characterize Jupiter's Temperature, Cloud and Composition to Support Juno Science Orbit Perijove 17

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**Therese Encrenaz, Thomas Greathouse, Emmanuel Marcq, Hideo Sagawa, Thomas Widemann, Bruno Bezard, Thierry Fouchet, Sushil Atreya, Yeon Joo Lee, Rohini Giles**

HDO and SO<sub>2</sub> thermal mapping in the atmosphere of Venus

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**Anicia Arredondo, Humberto Campins, Noemi Pinilla-Alonso**

Spectroscopy of Inner Belt Primitive Asteroid Families: Third Semester

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**Richard Cartwright, Will Grundy**

Investigating the origin of CO<sub>2</sub> ice on Ariel and Triton using iSHELL

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**Elisabeth Newton, Antonija Oklopčič, Andrea Dupree, Andrew Mann**

The evaporating helium exosphere of the warm Neptune GI 436b

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**Francesca DeMeo, Schelte J. Bus, Richard P. Binzel, David Polishook, Brian Burt, Cristina Thomas, Nicholas Moskovitz, Andrew Rivkin**

Spectral Measurements of Spacecraft Mission Candidates and Potentially Hazardous Asteroids

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**James Blake, Leigh Fletcher, Thomas Greathouse, Glenn Orton, Henrik Melin, James Sinclair, Arrate Antunano Martin, Padraig Donnelly, Naomi Rowe Gurney**

Saturn after the summer solstice: comparing observations one Saturnian year apart

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**Emmanuel Marcq, Franck Lefevre, Thomas Widemann, Therese Encrenaz**

Precision mapping SO<sub>2</sub>, H<sub>2</sub>O and HDO below the clouds of Venus

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**Andrea Banzatti, Sean Brittain, John Rayner, Klaus Pontoppidan, Antonio Garufi, Mihkel Kama**

Is the planet-forming region of Herbig disks always dry?

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**Vishnu Reddy, Juan Sanchez, Tomoko Arai, Benjamin Sharkey**

Physical Characterization of Small NEOs

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**Constantine Tsang, Eliot Young, Kevin McGouldrick, Mark Bullock**

High Resolution Spectroscopy of Minor Species in Venus's Nightside Troposphere

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**David Polishook, Francesca DeMeo**

Breaking visible range degeneracy to confirm the first olivine-rich Near-Earth asteroid

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**Javier Peralta, Glenn Orton, Takao Sato, Makoto Taguchi, Tetsuya Fukuhara, Eliot Young, Hideo Sagawa, Toru Kouyama, Yeon Joo Lee, Ricardo Hueso, Agustin Sanchez-Lavega, Kevin McGouldrick, Pedro Machado, Thomas Widemann, Takeshi Imamura, Takehiko Satoh, Masato Nakamura**

The clouds of Venus in 360 degrees with IRTF/MIRSI and Akatsuki/LIR

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**Gordon Garelle, Paul Hardersen, Matthew Izawa, Matt Nowinski**

Surface Mineral Composition of D-Type Asteroids

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**Henrik Melin, Laurence Trafton, Leigh Fletcher, Tom Stallard, Rosie Johnson, Nahid Chowdhury**

Disentangling the energy drivers of Uranus' upper atmosphere

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**James Sinclair, Glenn Orton, Padma Yanamandre-Fisher, Leigh Fletcher, Rohini Giles, Fachreddin Tabataba-Vakili, Chihiro Tao**

High-cadence imaging measurements of Jupiter's mid-infrared auroral emission

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**James Sinclair, Glenn Orton, Thomas Greathouse, Rohini Giles, Leigh Fletcher, Fachreddin Tabataba-Vakili, Henrik Melin, Patrick Irwin**

Long-term evolution of stratospheric temperature and hydrocarbon abundances in Jupiter's auroral regions

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**Thomas Giesen, Daniel Witsch, Guido Fuchs, Bjoern Wassmuth, Mona Kempkes, Alexander Breier**

The condensation of stellar dust: Investigating the role of TiO and TiO<sub>2</sub> in M-type AGB stars

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**Nicholas Moskovitz, Richard Binzel, Bobby Bus, Gareth Williams, Steve Chesley, David Polishook, Francesca DeMeo, Brian Burt, Cristina Thomas**

IRTF NEO Rapid Response: Close Encounters of the Asteroid Kind

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**Eilat Glikman, Stephanie LaMassa, Meg Urry, Mark Lacy**

A Survey for Radio Quiet Red Quasars in Stripe 82

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**Miwa Goto, Izaskun Jimenez-Serra, Paola Caselli, Anton Vasyunin**

Methanol ice in L 1544

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**Tyler Linder, Matt Nowinski, Ron Fevig, Amanda Pagul**

Near-infrared [NIR] reflectance spectroscopy investigation of taxonomic variations among multiply-observed asteroids from the Sloan Digital Sky Survey [SDSS]

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**Amanda Sickafoose, Carlos Zuluaga, Amanda Bosh, Stephen Levine, Michael Person**

Stellar occultations by Pluto, Haumea, Chariklo, Bienor, 202421, and 307261

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**Jackie Faherty, Marc Kuchner, Jonathan Gagne, Adam Schneider, Aaron Meisner, Daniella Bardalez Gagliuffi, Sarah Logsdon**

Previously Missed Brown Dwarfs Discovered Through an All Sky Proper Motion Survey

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**Piyali Saha, Maheswar Gopinathan, Umanath Kamath**

Near-infrared spectroscopy of YSOs in NGC 7023 using SpeX

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**Thomas Greathouse, Glenn Orton, Leigh Fletcher, Therese Encrenaz, Richard Cosentino, Thierry Fouchet, Rohini Giles, Raul Morales-Jeberias**

Characterizing Wave Phenomena in Jupiter's Upper Atmosphere in the Thermal-IR

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**Indhu Varatharajan, Constantine Tsang, Jorn Helbert, Noam Izenberg**

Mercury's Surface Composition and Thermophysics from Mid-IR Observations

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**Neil Dello Russo, Michael DiSanti, Ronald Vervack, Boncho Bonev, Erika Gibb, Hideyo Kawakita, Nathan Roth, Adam McKay, Anita Cochran, Emmanuel Jehin, Martin Cordiner, Harold Weaver, Nicolas Biver, Jacques Crovisier**

A collaborative study of the chemistry of comet Wirtanen during its exceptional 2018 apparition

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**Zachary Maas, Catherine Pilachowski, Kenneth Hinkle**

Chlorine Abundances and Isotope Ratios in Carbon Stars

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**Leigh Fletcher, Thomas Greathouse, Glenn Orton, Henrik Melin, James Sinclair, Rohini Giles, James Blake, Arrate Antunano, Naomi Rowe-Gurney, Pdraig Donnelly**

Changes in Jupiter's Deep Belt/Zone Structure via Interannual Juno-TEXES Comparisons

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**Beth Biller, Michael Liu, Katelyn Allers, Loic Albert, Etienne Artigau, Po-Shih Chiang, Wen-Ping Chen, Mickael Bonnefoy, Philippe Delorme, Jessy Jose, Bhavana Lalchand, Greg Herczeg, Yumiko Oasa, Z.J. Zhang**

Discovering the youngest free-floating planets: spectroscopic confirmation of candidate young brown dwarfs and planetary mass objects from a transformative survey of Taurus with the novel W-band filter

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**Harriet Dinerstein, N. C. Sterling, William Vacca**

Planetary Nebulae as Contributors to Galactic Enrichment in Neutron-Capture Elements

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**Adam Burgasser, Chris Theissen, Christian Aganze, Chih-chun Hsu, Jessica Birky, Sarah Schmidt**

Training the Cannon: Calibrating APOGEE Observations of Ultracool Dwarfs

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**Michael Gaffey, Sherry Fieber-Beyer, Rachel Roberts**

Investigation of the 20 Massalia Asteroid Family as the Source of the L-Chondrites

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**Paul Corlies, Alexander Hayes, Patricio Rojo, Mate Adamkovics, Elizabeth Turtle, Sebastien Rodriguez, Jonathan Mitchell, Jonathan Lunine, Juan Lora**

Continued investigation of seasonal changes in Titan's meteorology through cloud monitoring with IRTF SpeX

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**Michael DiSanti, Adam McKay, Neil Dello Russo, Boncho Bonev, Erika Gibb, Anita Cochran, Nathan Roth, Ron Vervack, Lori Feaga, Emmanuel Jehin**

Measurement of Parent Volatiles in Halley-family comet 38P/Stephan-Oterma and Jupiter-family comet 64P/Swift-Gehrels

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**Erika Gibb, Mohammad Saki, Boncho Bonev, Michael DiSanti, Neil Dello Russo, Nathan Roth, Ron Vervack, Michael Combi, Hideyo Kawakita, Adam McKay**

Parent Volatile Abundances and Inner-Coma Physics in Comet C/2017 S3 [PanSTARRS]

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**Driss Takir, Joshua Emery**

Near-infrared Spectroscopy of Outer Main Belt Asteroids.

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**Paulo Miles Paez, Stanimir Metchev, Megan Tannock**

Identifying the ultra-cool dwarfs with the most favorable geometry to search for Earth-sized planets.

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**Alessandra Candian, Stephanie Cazaux, Annemieke Petrignani**

Probing the population of PAHs with SpeX

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**Sara Faggi, Michael J. Mumma, Geronimo Villanueva, Lucas Paganini, Manuela Lippi**

Quantifying the Evolution of Molecular Composition of comet 21P/Giacobini-Zinner.

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**Marcelle Soares-Santos, Sahar Allam, J. Allyn Smith, Douglas Tucker, Martin Makler, James Annis, Keith Bechtol, Antonio Bernardo, Dillon Brout, Robert Butler, Chris Conselice, Chris D'Andrea, Tamara Davis, Reinaldo de Carvalho, H. Thomas Diehl, Alex Drlica-Wagner, Joshua Frieman, Christopher Frohmaier, Alyssa Garcia, Mandeep Gill, Robert Gruendl, Will Hartley, Kenneth Heger, James Hearn, Richard Kruger, Nikhil Kumar, Ofer Lahav, Huan Lin, Karina Lokshall, Andrew Lundgren, Robert Munn, IRTF SpeX Spectroscopy of LIGO/Virgo O3 Transients**

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**Ron Vervack, Neil Dello Russo, Boncho Bonev, Mike DiSanti, Erika Gibb, Hideyo Kawakita, Nathan Roth, Adam McKay, Lori Feaga, Hal Weaver, Anita Cochran, Nicolas Biver, Dominique Bockelee-Morvan, Jacques Crovisier**

SpeX observations of the overall gas and dust composition of five comets during the unusually rich 2018B observing semester

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**Adam Burgasser, Chris Theissen, Daniella Bardalez Gagliuffi, Elizabeth Moreno Hilario**

LaTE-MoVeRS: New Nearby Very Low-Mass Stars and Brown Dwarfs Verified by Proper Motion from SDSS+2MASS+WISE

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**David Trilling, Michael Mommert, Joseph Hora, Howard Smith, Nick Moskovitz**

Observations of Near Earth Objects with the newly refurbished MIRS1

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**Nathan Roth, Erika Gibb, Boncho Bonev, Michael DiSanti, Neil Dello Russo, Ron Vervack, Hideyo Kawakita, Lori Feaga, Nicolas Biver, Martin Cordiner, Mohi Saki, Anita Cochran, Adam McKay, Michael Combi, Dominique Bockelee-Morvan**

Testing Seasonal and Evolutionary Effects on Volatile Composition in the Prototypical Carbon-Chain Depleted Comet 21P/Giacobini-Zinner

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**Adam McKay, Michael DiSanti, Neil Dello Russo, Boncho Bonev, Ronald Vervack, Erika Gibb, Nathan Roth**

Measuring the CO and CH<sub>4</sub> Abundance in Jupiter Family Comet 46P/Wirtanen

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**David Polishook, Cristina Thomas, Francesca DeMeo, Nicholas Moskovitz**

Tracing the olivine origin: planetesimal or nebular?

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**Evgenya Shkolnik, Joe Llama**

Auroral H<sub>3</sub><sup>+</sup> Emission from Exoplanets with iSHELL

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**Sean Brittain, Joan Najita, John Carr, Stanley Jensen**

Search for Planet/Disk Interaction in the Exoplanet Host CI Tau

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**Paul Lucey, Heather Kaluna, Casey Honniball**

A ground-based search for hydration features on the Moon

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**Ted von Hippel, Jay Farihi, Gilles Fontaine, Scot Kleinman, Jim Pringle, Judi Provencal**

Discovered 31 years ago at the IRTF: Reviewing the paradigm with the prototype

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**Eric Gaidos, Andrew Mann**

An Improved Mass-Luminosity Relation for M Dwarfs

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**Michael Connelley, Christian Flores**

Are Class I Objects Really Protostars?

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**Tom Megeath, Alessio Caratti o Garatti, Hendrik Linz, Henrich Beuther, Nicole Karnath**

ISHELL Spectroscopy of Accretion and Outflow Lines toward the protostar IRAS 20126

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**Christian Flores, Michael Connelley, Bo Reipurth**

The evolution of the total magnetic field strength in young stars

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**Schelte J. Bus, Francesca DeMeo, Richard P. Binzel, David Polishook, Cristina Thomas, Brian Burt, Nicholas Moskovitz, Andrew Rivkin**

Spectral Measurements of Spacecraft Mission Candidates and Potentially Hazardous Asteroids

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**Melissa Shahbandeh, Eric Hsiao, David Sand, Howie Marion, Mark Phillips, Andy Howell, Peter Hoeflich, Max Stritzinger, Chris Ashall**

Constraining Type Ia Supernova Physics with Near-Infrared Spectroscopy

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**Mark Willman, Bin Yang**

Spectroscopic Survey of the Peculiar Euphrosyne Family

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**Michael J. Mumma, Sara Faggi, Geronimo Villanueva, Lucas Paganini, Manuela Lippi**

Quantifying the Volatile Composition and Heterogeneity of comet 46P/Wirtanen.

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**Patrick Fry, Lawrence Sromovsky**

Investigating polar cloud and gas composition on Uranus.

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**Jeff Bary, Michael Petersen, Benjamin Tofflemire, Kim Ward-Duong**

SpeX+MORIS Star Spot Monitoring of K2 Selected T Tauri Stars in Taurus-Auriga

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**Boncho Bonev, Neil Dello Russo, Michael DiSanti, Michael Combi, Erika Gibb, Silvia Protopapa, Ronald Vervack, Adam McKay, Nathan Roth, Hideyo Kawakita, Yinsi Shou, Nicolas Fougere, Martin Cordiner**

The Coma Physical Environment and Water Outgassing in Comets 46P/Wirtanen and 21P/Giacobini-Zinner: Two Outstanding Apparitions of Potential Spacecraft Targets

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**Adwin Boogert, Andrew Barr, Xander Tielens, Ryan Dungee, John Lacy, Matt Richter, Curtis DeWitt, Ed Montiel, Jacqueline Keane**

The Organic Inventory of Hot Molecular Cores

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**Nicole Karnath, Tom Megeath, Rohan Rahatgaonkar**

Resolving Photospheric Features in Flat Spectrum Protostars in Orion

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**Bo Reipurth, Michael S. Connelley**

A ToO study of young stars with major eruptions

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**Johanna Teske, Peter Plavchan, Jonathan Gagne, Peter Gao, Eric Gaidos, Brett Addison, Angelle Tanner, Jackie Faherty, Adam Burgasser, Alan Boss, Alycia Weinberger,**

What Lies Beyond the TRAPPIST-1 Snow Line? Constraining Long Period Neptunes with iSHELL Radial Velocity Observations

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**Christopher Johns-Krull, Joe Llama, Lisa Prato, Larissa Nofi, Dan Jaffe**

The Wavelength Dependence of Radial Velocity Noise in the Search for Planets Around Very Young Stars

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**Bryan Holler, Cathy Olkin, Leslie Young, Will Grundy, Silvia Protopapa, Maya Yanez**

Investigating short-term temporal changes on Pluto's northern hemisphere

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**Bryan Holler, Leslie Young, Silvia Protopapa, Bobby Bus**

Spectra of the intermediate-sized KBOs 2001 UR163 and Chaos

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**Ellen Howell, Ronald Vervack, Yan Fernandez, Jenna Crowell, Mary Hinkle, Sean Marshall**

Combining thermal observations and radar-derived shapes of Near-Earth asteroids

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**Zhoujian Zhang, Michael Liu, William Best, Eugene Magnier**

A Complete Brown Dwarf Census of Taurus Down to the Planetary-Mass Regime

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**P. Wilson Cauley, Seth Redfield, Laura Kreidberg, Evgenya Shkolnik**

Exoplanet mass loss from the ground: using He I 10830 angstroms to probe the exospheres of KELT-9 b and GJ 436 b

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**Carey Lisse, Mike Sitko, Massimo Marengo**

IRTF/SpeX Monitoring of Tabby's Star, the KIC 8462852 Extreme Lightcurve System

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**Christian Flores, Michael Connelley, Bo Reipurth**

Large scale instabilities in the magnetospheres of classical T Tauri stars

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**Leslie Young, William Grundy, Bryan Holler, Eliot Young**

Occasional Triton spectra 2015-2019 for rotational and seasonal variability

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**Bryson Cale, Peter Plavchan, Andrew Mann, Eric Gaidos, Elisabeth Newton, Aaron Rizzuto**

Zodiacal Exoplanets In Time: Measuring the Masses of Young Exoplanets

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**Adwin Boogert**

iSHELL Spectroscopy of Organics in Protoplanetary Disks: CH<sub>4</sub>

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**Courtney Dressing, Joshua Schlieder, Kevin Hardegree-Ullman, Andrew Vanderburg, Elisabeth Newton**

Characterizing Low-mass Stars Hosting Small Planets

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**Hideo Sagawa, Takao Sato, Hajime Kita**

Cloud-top altimetry on the dayside of Venus with high dispersion spectroscopy of CO<sub>2</sub> absorption bands

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**Michael Gregg**

Empirical Calibration of Near-IR Spectral Features of M31 Globular Clusters

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**Evan Rich, John Wisniewski, Michael Sitko, Carol Grady, Misato Fukagawa**

Constraining the Jet, Inner and Outer disk of HD 163296 with VLA, HST, and IRTF

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**Silvia Protopapa, Michael S. P. Kelley, Bin Yang, Dennis Bodewits, Emmanuel Jehin, Quan-Zhi Ye**

Physical properties of water-ice grains

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**Cristina Thomas, Joshua Emery, Lauren McGraw, Andrew Rivkin**

A Search for 3-um Features on Nominally Anhydrous Main Belt Asteroids

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**Daniella Bardalez Gagliuffi, Christopher Theissen**

Searching for Hierarchical Triples in Wide, Common Proper Motion, Very Low Mass Binaries

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**Luke Moore, Carl Schmidt, James O'Donoghue, Henrik Melin, Tom Stallard**

Saturn's equatorial ionosphere: ring influxes and the mass 28 mystery

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**Schelte Bus, Dora Fohring, Jessica Sunshine**

Near-IR Spectroscopic Survey of the Mildred Asteroid Family - Searching for Olivine

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**Michael Liu, Michael Lines, William Best, Mark Marley**

Retrieving Physical Parameters of a Volume-Limited Sample of Brown Dwarfs

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**Eliot Young, Mark Bullock, Con Tsang, Yeon Joo Lee, Toru Kouyama, Kevin McGouldrick, Javier Peralta, Takehiko Satoh**

Observations of Venus' Lower and Middle Cloud Decks in Conjunction with Akatsuki Observations

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**Silvia Protopapa, Michael S. P. Kelley, Bin Yang, Charles E. Woodward, Boncho Bonev**

Historic close approach of comet 46P/Wirtanen: Is hyperactivity caused by icy grains?

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**Dora Fohring, Bobby Bus**

Characterization of Hertha

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