# 2020 Virtual DDA Meeting Schedule

## 2020 Virtual 51st Annual Meeting of the DDA

### Q&A/Discussion Webinar Schedule

All presentations (except the plenary prize lectures) are pre-recorded and are available for viewing on the registrant-only DDA meeting website. [1]

Public links to many of the presentations are now available!

You can see all of the meeting abstracts in ADS [2], or click on the individual talk/poster titles to go to individual abstracts in ADS.

All times below are EDT (UTC-4)

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<thead>
<tr>
<th>Monday, August 3</th>
<th>Time</th>
<th>Event</th>
<th>Presenter</th>
<th>Location</th>
<th>Details</th>
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<tbody>
<tr>
<td>10:50 AM EDT</td>
<td>Kat Volk, SOC and DDA chair</td>
<td>Introduction and announcements</td>
<td></td>
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<tr>
<td>11:00 AM - 11:35 AM EDT</td>
<td>Special Session</td>
<td><strong>The Main Belt: A Complex Dynamical System (Session 100)</strong></td>
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<tr>
<td></td>
<td>Mikael Granvik</td>
<td>University of Helsinki / Luleå University of Technology</td>
<td>(Invited) Source regions of meteorites and near-Earth asteroids [7] - Link to Recording [8]</td>
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</tr>
<tr>
<td>Time</td>
<td>Event</td>
<td>Chair(s)</td>
<td>Speaker(s)</td>
<td>Institution(s)</td>
<td>Presentation Title</td>
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<tr>
<td></td>
<td>Fred Adams University of Michigan</td>
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<td><strong>Emily Safsten</strong> The Pennsylvania State University<strong>Nature vs. nurture: a Bayesian framework for assessing apparent correlations between planetary orbital properties and stellar ages</strong> [18]</td>
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<td><strong>Jiayin Dong</strong> The Pennsylvania State University<strong>Unraveling Warm, Large Exoplanet (WaLE) Origins From TESS Observations</strong> [19] - <strong>Link to Recording</strong> [20]</td>
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<td><strong>Kyriaki Antoniadou Aristotle University of Thessaloniki</strong>Kepler and K2 systems dynamically unveiled via periodic orbits** [21] (Poster)</td>
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<td><strong>Srisurya Yadavalli Georgia Institute of Technology</strong>On the Seasonal Flux and Temperature Variations on Circumbinary Planets** [22] - <strong>Link to Recording</strong> [23]</td>
</tr>
<tr>
<td>1:00 PM - 2:30 PM EDT</td>
<td><strong>Plenary Session (Session 102): Vera Rubin Early Career Prize Lecture</strong></td>
<td></td>
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<td><strong>Dirk Brouwer Prize Lecture</strong></td>
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<td></td>
<td>1:00</td>
<td>Jo Bovy University of Toronto</td>
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<td></td>
<td><strong>What I have learned about the Milky Way’s dynamics from Gaia so far</strong> [24]</td>
</tr>
<tr>
<td></td>
<td>1:45</td>
<td>Fred Rasio Northwestern University</td>
<td></td>
<td></td>
<td><strong>Forming Gravitational Wave Sources through Stellar Dynamics</strong> [25]</td>
</tr>
<tr>
<td>Tuesday, August 4</td>
<td><strong>Stellar Kinematics in the Milky Way and Complex Stellar Clusters (Session 200)</strong></td>
<td></td>
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<td></td>
<td><strong>Tuesday, August 4</strong> <strong>Stellar Kinematics in the Milky Way and Complex Stellar Clusters (Session 200)</strong></td>
</tr>
<tr>
<td>9:30 AM - 10:00 AM EDT</td>
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<td><strong>Chair: Heidi Jo Newberg</strong></td>
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<tr>
<td></td>
<td>Eric Mendelsohn Rensselaer Polytechnic</td>
<td></td>
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<td><strong>N-Body Simulations</strong></td>
</tr>
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</table>
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Institute with MilkyWay @ home

Nondh Panithanpaisal University of Pennsylvania
Stellar Streams and Their Progenitors in MW-like Simulations

Thomas Donlon Rensselaer Polytechnic Institute
A Recent Major Radial Merger Leaves Shells in the Milky Way

Drona Vargya University of Pennsylvania
Nemesis Stars in Dynamic Time-Dependent Galactic Potentials

Maria Tiongco University of Colorado
Complexities in the Kinematical Evolution of Globular Clusters

Hangci Du Tsinghua University
Kinematics of RR Lyrae stars in the Galactic bulge with OGLE-IV and Gaia DR2

10:00 AM - 10:15 AM EDT The Solar System in the Galaxy: Interstellar objects and stellar flybys (Session 201)

Chair: Darryl Seligman

Amir Siraj Harvard University Identifying Interstellar Objects Trapped in the Solar System through Their Orbital Parameters

Marvin Morgan University of Pennsylvania Close Encounters of Stars in the Solar Neighborhood (Poster PDF)

Tim Hallatt McGill University The Dynamics of Interstellar Asteroids and Comets within the Galaxy: An Assessment of Local Candidate Source Regions for 1I/'Oumuamua and 2I/Borisov

10:15 AM - 10:40 AM EDT Early Planetary Systems: accretion, collisions, and orbital configurations (Session 202)

Chair: Gongjie Li

Mor Rozner Technion The aeolian-erosion barrier for the growth of metre-size objects in protoplanetary-discs and implications
Christopher Spalding  
Yale University

The Solar Wind Prevents Re-accretion of Debris after Mercury’s Giant Impact

Jennifer Pouplin  
Purdue University

The Importance of Being Swiftest: The effects of collisional fragmentation on the accretion timescale of the martian moons and the terrestrial planets

Carlisle Wishard  
Purdue University

Swiftest: An N-body dynamics code incorporating collisional regime determination and fragmentation

Matthew Clement  
Carnegie Institution of Washington

Born eccentric: constraints on Jupiter and Saturn’s pre-instability orbits

1:30 PM - 2:00 PM EDT  
Asteroid Dynamics: Pairs, Multiples, Shapes, and Spin States (Session 203)

Darryl Seligman  
University of Chicago

The Onset of Chaos in Permanently Deformed Binaries from Spin-Orbit and Spin-Spin Coupling

Sanjana Prabhu Desai  
UCLA

Evolution of the Binary Asteroid 66391 Moshup-Squannit (1999 KW4)

Valeri Makarov  
U.S. Naval Observatory

Spin-orbit resonances of prolate asteroids and minor planets at high eccentricity (e > 0.9)

Darin Ragozzine  
Brigham Young University

Non-Keplerian Effects in Kuiper Belt Multiples

Tamires Moura  
São Paulo State University - UNESP

Dynamical Environment and Surface Characteristics of Asteroid (16) Psyche

Timothy Holt  
University of Southern

A pair of Jovian Trojans
Queensland

2:00 PM - 2:20 PM EDT

**Exoplanets: Linking Observations and Dynamics with TTVs (Session 204)**

Chair: Juliette Becker

- Chris Fox, University of Western Ontario: Exomoon Candidates from Transit Timing Variations [61]
- Mariah MacDonald, Pennsylvania State University: Confirming and characterizing the five-planet resonant chains of K2-138 and Kepler-80 [64] - Link to Recording [65]
- Abigail Graham, Brigham Young University: Investigating unseen exoplanets in Kepler multis [66] - Link to Recording [67]

2:20 PM - 2:50 PM EDT

**Planetary Satellites and Rings (Session 205)**

Chair: Matthew Tiscareno

- Joseph A'Hearn, University of Idaho: Periodic orbits for small N co-orbital satellite systems [68] - Link to Recording [69]
- Maryame El Moutamid, Cornell University: The Orbital History of Mimas, Enceladus and Dione [70]
- Matija Cuk, SETI Institute: Are The Inner Satellites of Uranus Stable? [71] - Link to Recording [72]
- Matthew Hedman, University of Idaho: Sudden changes in the structure and orbit of one of Saturn's dusty rings [73] - Link to Recording [74]
- Philip Nicholson, Cornell University: The outer edge of Saturn's A ring, as revealed by Cassini occultation observations, [75]
- Matthew Young, University of Idaho: Evidence for a new type of moonlet wake near Enceladus [76] (Poster PDF [77])

**Wednesday, August 5**

9:30 AM - 10:00 AM EDT

**Planetary System Stability (Session 300)**

Chair: Dimitri Veras

- Daniel Tamayo, Princeton University: Predicting the
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<th>Title</th>
<th>Speaker</th>
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<tr>
<td>long-term stability of compact multi-planet systems</td>
<td>A. Paula Granados Contreras</td>
<td>Academia Sinica</td>
</tr>
<tr>
<td>Mass stability limit for coorbital planets in a horseshoe configuration</td>
<td>Sacha Gavino</td>
<td>CNRS-Université de Bordeaux</td>
</tr>
<tr>
<td>Orbital stability of compact three-planet systems</td>
<td>Billy Quarles</td>
<td>Georgia Institute of Technology</td>
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<tr>
<td>Orbital Stability of Circumstellar Earth-like planets in Binary Systems</td>
<td>Marialis Rosario-Franco</td>
<td>National Radio Astronomy Observatory</td>
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<tr>
<td>Orbital Stability of Exomoons and Submoons with Applications to Kepler 1625b-1</td>
<td>Laetitia Rodet</td>
<td>Cornell University</td>
</tr>
<tr>
<td>Hiding resonant objects behind a big friend</td>
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**10:00 AM - 10:25 EDT**

### Bars and Spiral Arms in Galaxies (Session 301)

Chair: Aleksey Generozov

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<thead>
<tr>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>FORSTAND: A New Schwarzschild Dynamical Modeling Code for Galaxies of All Morphological Types</td>
<td>Monica Valluri</td>
<td>University of Michigan</td>
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<tr>
<td>Buckling bars in face-on galaxies observed with MaNGA</td>
<td>Katherine Xiang</td>
<td>Johns Hopkins University</td>
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<tr>
<td>Orbits in galactic bars</td>
<td>E. Athanassoula</td>
<td>Laboratoire D'Astrophysique De Marseille</td>
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<tr>
<td>Halo-Bar Coupling via Secular Torques</td>
<td>Angela Collier</td>
<td>JILA/ UC Boulder</td>
</tr>
<tr>
<td>Leading Spiral Arms in Isolated Disc Galaxies</td>
<td>Emma Lieb</td>
<td>University of Colorado Boulder</td>
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**Special Session**

### The Dynamics of Building a Dynamics Community (Session 302)

Chair: Smadar Naoz

**2:00 PM - 2:05 PM**

Ruth Murray-Clay (DDA) Thoughts on Building an
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<tr>
<th>Time</th>
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<tr>
<td><strong>Thursday, August 6</strong></td>
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<tr>
<td>11:00 AM - 11:30 AM EDT</td>
<td><strong>Special Session</strong></td>
<td>Artificial Celestial Bodies as a Dynamical Laboratory for Astrophysical and Celestial Dynamics (Session 400)</td>
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<tr>
<td></td>
<td>Alessandra Celletti (Invited) University of Rome Tor Vergata</td>
<td>(Invited) Regular, resonant and chaotic motions within space debris [96] - Link to Recording [97]</td>
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<tr>
<td></td>
<td>Shane Ross (Invited) Virginia Tech</td>
<td>The interplanetary transport network: mechanisms of fast transport in the solar system [98] - Link to Recording [99]</td>
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<td>Conor Benson (Invited) University of Colorado</td>
<td>YORP-Driven Spin State Evolution of Meter-Sized Asteroids [100] - Link to Recording [101]</td>
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<tr>
<td></td>
<td>Marielle Pellegrino (Invited) University of Colorado Boulder</td>
<td>Influence of Solar Radiation Pressure on the Luni-Solar Resonance Structure of MEO satellites [102]</td>
</tr>
<tr>
<td>11:30 AM - 11:50 AM EDT</td>
<td><strong>Near Earth Asteroids (Session 401)</strong></td>
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<tr>
<td></td>
<td>Jean-Luc Margot (Invited) University of California, Los Angeles</td>
<td>Measurements of Yarkovsky Drift Rates for 247 Near-Earth Asteroids [103]</td>
</tr>
<tr>
<td></td>
<td>Jorge Pérez-Hernández (Invited) Universidad Nacional Autonoma de Mexico (UNAM)</td>
<td>The Yarkovsky effect for (99942) Apophis and observational predictions for the upcoming 2020-2021 close approach to Earth [104] -- Duncombe Student Research Prize Winner - Link to Recording [105]</td>
</tr>
<tr>
<td></td>
<td>Bruno Chagas (Invited) UNESP</td>
<td>Deflect an hazardous asteroid through kinetic impact [106] (Poster PDF [107])</td>
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</table>
Daniel Scheeres  
University of Colorado  
**Janus: A NASA SIMPLEx mission to explore two NEO Binary Asteroids** [108] - [Link to Recording] [109]

**12:00 PM - 1:00 PM EDT**  
**DDA Members' Meeting**

**7:10 PM - 7:30 PM EDT**  
**Solar System Evolution: numerical methods and long-term stability (Session 402)**

Chairs: Sarah Morrison

Oscar Fuentes-Munoz  
University of Colorado, Boulder  
**Semi-analytical long-term propagation of asteroids** [110] - [Link to Recording] [111]

Kevin Zhang  
Cornell University  
**GLISSE: A GPU-optimized planetary system integrator with application to orbital stability calculations** [112] - [Link to Recording] [113]

Yukun Huang  
University of British Columbia  
**Four Billion Year Stability of the Earth-Mars Belt** [114]  
(*Poster PDF*) [115]

**7:30 PM - 7:55 PM EDT**  
**Formation and Evolution of Planetary System Architectures (Session 403)**

Chair: Sarah Millholland

Ruth Murray-Clay  
University of California, Santa Cruz  
**A Giant Impacts Phase for Giant Planets** [116] - [Link to Recording] [117]

Isabel Angelo  
University of California, Los Angeles  
**The Dynamical Origins of Kepler-1656b’s Extreme Eccentricity** [118]  
(*Poster PDF*) [119]

Sarah Morrison  
Missouri State University  
**Producing Close-in Super-Earths and Mini-Neptunes in Resonant Chains During In Situ Planet Formation** [120]

Yuji Matsumoto  
Academia Sinica Institute of Astronomy and Astrophysics  
**Breaking resonant chains triggered by long-term mass evolution** [121] - [Link to Recording] [122]

Juliette Becker  
Caltech  
**The Origins of Multi-Planet Systems with Misaligned, Nearby Companions** [123] - [Link to Recording] [124]
10:00 AM - 10:20 AM EDT

**Meteoroids and Comets (Session 500)**

Chair: David Minton

- Mark Moretto
  - University of Colorado
  - The Perturbative Effects of Gas Drag at Active Comets: Equations of Motion for the Mean Elements under General Inverse-Square Perturbations [125]

- Luke Dones
  - Southwest Research Institute
  - Splitting as a Source of Periodic Comets [126] - Link to Recording [127]

- Althea Moorhead
  - NASA Marshall Space Flight Center
  - Realistic gravitational focusing of meteoroid streams [128] - Link to Recording [129]

10:20 AM - 10:40 AM EDT

**Outer Solar System: dynamics and observations of TNOs (Session 501)**

Chair: Matthew Hedman

- Benjamin Proudfoot
  - Brigham Young University
  - Unlocking the mystery of the Haumea Family [130] - Link to Recording [131]

- Ann-Marie Madigan
  - CU Boulder
  - Collective gravity in the Outer Solar System [132] - Link to Recording [133]

- Malena Rice
  - Yale University
  - Surveying the Trans-Neptunian Solar System with TESS [134] -- Duncombe Student Research Prize Winner

- William Oldroyd
  - Northern Arizona University
  - Constraining the Outer Solar System Perihelion Gap [135] - Link to Recording [136]

10:40 AM - 11:05 AM EDT

**Planets and Planetesimals around Highly Evolved Stars (Session 502)**

Chairs: Cristobal Petrovich

- Catriona McDonald
  - University of Warwick
  - How the breakup of triaxial asteroids generates debris reservoirs for white dwarf pollution [137] (Poster PDF [138])

- Christopher O'Connor
  - Cornell University
  - High-e migration of planetesimals around polluted white dwarfs [139]

- Alexander Stephan
  - UCLA
  - Social Distancing for Stars: A hidden friend for WD
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<tr>
<td>1:00 PM - 1:25 PM EDT</td>
<td><strong>Planetary System Obliquities and Tidal Evolution (Session 503)</strong></td>
<td>Smadar Naoz</td>
<td>- Dynamics of Colombo's Top: Generating Exoplanet Obliquities from Planet-Disk Interactions [144] -- Duncombe Student Research Prize Winner - <a href="145">Link to Recording</a></td>
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<tr>
<td></td>
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<td>Yubo Su</td>
<td>- Formations of Ultra-Short-Period Planets by Obliquity-Driven Tidal Runaway [146] - <a href="147">Link to Recording</a></td>
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<tr>
<td></td>
<td></td>
<td>Sarah Millholland</td>
<td>- Convective turbulent viscosity acting on equilibrium tidal flows: new frequency scaling of the effective viscosity [148] - <a href="149">Link to Recording</a></td>
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<td>Craig Duguid</td>
<td>- Disk dispersal-driven instabilities: application to hot Neptunes [150] - <a href="151">Link to Recording</a></td>
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<tr>
<td></td>
<td></td>
<td>Cristobal Petrovich</td>
<td>- Retrograde-rotating exoplanets experience obliquity excitations in an eccentricity-enabled resonance [152] - <a href="153">Link to Recording</a></td>
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<td>Steven Kreyche</td>
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<tr>
<td>1:25 PM - 1:50 PM EDT</td>
<td><strong>The Center of Galaxies (Session 504)</strong></td>
<td>Alexander Stephen</td>
<td>- A Hidden Friend for the Galactic Center Black Hole, Sgr A* [154]</td>
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<tr>
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<td>Smadar Naoz</td>
<td>- On Socially Distant Neighbors: Binaries as</td>
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<td>Sanaea Rose</td>
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Asynchronous Poster Presentations (Session 103)

Discussion via Slack

Available all week

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<tr>
<th>Name</th>
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<th>Title</th>
<th>Poster PDF</th>
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<tbody>
<tr>
<td>M. Clement</td>
<td>Earth and Planets Laboratory, Carnegie Institution</td>
<td>New initial conditions for terrestrial planet formation derived from high resolution simulations of planetesimal accretion</td>
<td>[159]</td>
</tr>
<tr>
<td>M Cuk</td>
<td>SETI Institute,</td>
<td>&quot;Barrel Instability&quot; for Elongated Secondaries in Binary Asteroids</td>
<td>[160]</td>
</tr>
<tr>
<td>C. Filion</td>
<td>Department of Physics &amp; Astronomy, The Johns Hopkins University</td>
<td>The Low Mass Stellar Initial Mass Function of the Ultra Faint Dwarf Spheroidal Galaxy Bootes I</td>
<td>[161]</td>
</tr>
<tr>
<td>P. Gratia</td>
<td>JP Morgan Chase (formerly Northwestern University)</td>
<td>Eccentricity and the Lifetimes of Closely-Spaced Five-Planet Systems</td>
<td>[162]</td>
</tr>
<tr>
<td>A. Moorhead</td>
<td>NASA Marshall Space Flight Center</td>
<td>Is LaTeX use correlated with the number of equations in a manuscript?</td>
<td>[163]</td>
</tr>
<tr>
<td>D. Veras</td>
<td>University of Warwick</td>
<td>A full-lifetime planetary simulation: from stellar birth cluster evolution to planetary destruction around white dwarfs</td>
<td>[164]</td>
</tr>
<tr>
<td>K. Volk</td>
<td>Lunar and Planetary Lab, The University of</td>
<td>Dynamical instabilities in systems of multiple short-period planets are</td>
<td>[165]</td>
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Arizona likely driven by secular chaos: a case study of Kepler-102 [171]

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[1] http://r20.rs6.net/tn.jsp?f=001h_uDgQBPS40tK0oZkqE-M2xHeG3ff6oWv5Yb0B66ZBNdSa5GNFpMd3J3s4j5nOtDU3Uuxzg7Oyb5uFDzCnq1enYelCF-vjO6R5is3X34iVUjgSsXQmkWMxkfOjFOB50jN9Zs7shVb80VLLby6jfd9rCQdzzOC&c=SZaoQUQpZxt4AGZhGoD1T2-vDg_g8BNFjTc45Z-gKCD-a04fjGkH85w==&amp;ch=nv/X8yOwOk3o6QwefieQ3-Q5hV2iDd-M1UYpC0MNX3rypeRueMuQw==
[2] https://ui.adsabs.harvard.edu/search/fq=%7B!type%3Daqp%20v%3D%24fq_database%7D&amp;fq_database=(database%3Aastronomy)&amp;q=series%3AAAS%2FDivision%20of%20Dynamical%20Astronomy%20Meeting%20year%3A2020&amp;sort=bibcode%20asc%2C%20bibcode%20asc&amp;p_==0
[3] https://ui.adsabs.harvard.edu/abs/2020DDA....5110001M/abstract
[7] https://ui.adsabs.harvard.edu/abs/2020DDA....5110003G/abstract
[9] https://ui.adsabs.harvard.edu/abs/2020DDA....5110004D/abstract
[12] https://ui.adsabs.harvard.edu/abs/2020DDA....5110006N/abstract
[14] https://ui.adsabs.harvard.edu/abs/2020DDA....5110101A/abstract
[16] https://ui.adsabs.harvard.edu/abs/2020DDA....5110102H/abstract
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[25] https://ui.adsabs.harvard.edu/abs/2020DDA....5120001M/abstract
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[34] https://vimeo.com/441911030
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[155] https://ui.adsabs.harvard.edu/abs/2020DDA....5150402R/abstract
[156] https://ui.adsabs.harvard.edu/abs/2020DDA....5150403G/abstract
[157] https://ui.adsabs.harvard.edu/abs/2020DDA....5150404W/abstract
[158] https://ui.adsabs.harvard.edu/abs/2020DDA....5150405R/abstract
[159] https://ui.adsabs.harvard.edu/abs/2020DDA....5110303C/abstract
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