

# Sten Hasselquist

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## Sten Hasselquist, Staff Scientist

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## Research Interests

Spectroscopy, chemical abundances, neutron-capture elements, stellar populations, Milky Way satellite galaxies, chemically peculiar stars, Galactic archaeology, stellar ages.

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## Education

### New Mexico State University / Ph.D. Astronomy

Aug 2013 - May 2018, Las Cruces, NM

Thesis: "Chemical Abundances of the Milky Way and Sagittarius Using APOGEE"

Advisor: Jon Holtzman

### New Mexico State University / M.S. Astronomy

Aug 2013 - Dec 2016, Las Cruces, NM

Advisor: Jon Holtzman

### University of Virginia / B.A. Astronomy/Physics

Aug 2009 - May 2013, Charlottesville, VA

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## Research/Work Experience

### STScI Staff Scientist II, Cosmic Origins Spectrograph

July 2021 - Present

Supervisor: Dr. Marc Rafelski

I work on various aspects of the Cosmic Origins Spectrograph, with a focus on the FUV detector.

### SDSS-IV APOGEE Science Working Group Co-Chair

August 2019 - July 2021

Supervisor: Dr. Steve Majewski

Coordination of APOGEE science working groups and organization of team meetings.

### SDSS-V Collaboration Council Utah Representative

November 2018- July 2021

Assist with drafting the various SDSS-V policies, implementing these policies, and ensuring my institution is able to realize the full benefit of being a member of SDSS-V.

## **National Science Foundation Postdoctoral Fellow**

September 2018 - July 2021

Sponsoring Scientist: Dr. Gail Zasowski

Galactic archaeology and ages of stars in the inner Galaxy

## **APOGEE Pipeline Operator/ New Mexico State University**

June 2015 - May 2018

Supervisor: Jon Holtzman

Responsible for the day-to-day reduction of APOGEE data from the 2.5m and 1m telescopes at Apache Point Observatory, and the 2.5m telescope at Las Campanas Observatory. Also tasked with improving the APOGEE data reduction pipeline and chemical abundance pipeline. Recognized with SDSS-IV *Architect* status.

## **Eclipse Balloon Project/ New Mexico State University**

Feb 2017 - Sep 2017

Supervisor: Paulo Oemig

Launched two high-altitude balloon experiments in August 2017 with the New Mexico Space Grant Consortium.

## **Graduate Research Assistant/ New Mexico State University**

Jun 2013 - May 2018

Advisor: Jon Holtzman

Improved the APOGEE linelist by characterizing lines of neodymium. Also analyzed chemical abundances of the Sagittarius Dwarf Galaxy and Milky Way.

## **Research Assistant/ University of Virginia**

May 2012 - July 2013

Advisor: Steven Majewski

Worked on target selection for the APOGEE survey and analyzed data from the Sagittarius Dwarf Galaxy.

## **Research Assistant/ University of Virginia**

May 2011 - May 2012

Advisor: Craig Dukes

Built cables and designed tests for the power distribution systems of the NOvA Neutrino Experiment.

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## **Grants and Awards**

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**Sloan Digital Sky Survey IV Architect, 2020 -**

<https://www.sdss.org/collaboration/architects/>

Significant contributor, NSF - 2009993, "Resolving the Milky Way's Global Star Formation History", 2020

Significant contributor, NSF - 1908331, "The Evolution of Dwarf Galaxies -

*A Comprehensive View of the Magellanic Clouds*", 2019

PI, **NSF AST-1801940**, "Using APOGEE Chemical Abundances to Probe Formation Scenarios of the Milky Way Bulge", 2018

**Dean's Graduate Award For Excellence, Honorable Mention** Spring 2018

**Zia Research Award** Fall 2017

**Sky Safari Recognition for Outstanding Outreach Participation**, Spring 2016, 2017

**Scott Murrell Award**, Spring 2017

**New Mexico Space Grant Consortium Graduate Research Fellowship**, 2015-2017

**NMSU Graduate Research Enhancement Grant**, 2014-2017

**Bascum Deaver Scholarship**, 2013

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## Observing Experience

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Proficient in observing using the Apache Point Observatory 3.5m telescope. I have observed 20 half-nights using the echelle spectrograph (ARCES) and 4 half-nights using the Dual Imaging Spectrograph (DIS). I am proficient in reducing data from both of these instruments.

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## Teaching and Outreach

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### High-Altitude Balloon Project

From Fall 2018 to present, I work with middle school, high school, and incoming college freshmen to launch scientific payloads via high-altitude balloons. This is done in cooperation with the University of Utah Center for Science and Mathematics Education [REFUGES](#) program. Here is a video of one of our successful launches: [https://youtu.be/H\\_GJQpejhE](https://youtu.be/H_GJQpejhE)

### NMSU Astronomy Outreach Coordinator

From Fall 2014-Spring 2017 I was the outreach coordinator for NMSU Astronomy. During my tenure, I led the department to **1,100 total** person-hours of outreach that affected an estimated **10,000 people**. I personally volunteered for **90 hours** in addition to time spent planning/organizing outreach events.

Some notable events I organized:

- Partial Solar Eclipse, Fall 2014, *public*
- Pluto flyby, Summer 2015, *public*
- Mercury Transit, Spring 2016, *public*
- Sierra Middle School Science Olympiad Training, Fall 2014 -Spring 2015, K-12

### Graduate Teaching Assistant: ASTR 110 Lab

*New Mexico State University*

Fall 2013-Spring 2014 and Fall 2017

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## Research Presentations

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2020 Galactic Dynamics Group of INCT Seminar, “APOGEE Chemical Abundance Patterns of the Massive Milky Way Satellites”, invited talk

2020 The Local Group Assembly and Evolution STScI Symposium, Virtual, “Exploring the Stellar Age Distribution of the Milky Way Bulge using APOGEE”, contributed poster

2020 SDSS-IV/SDSS-V Meeting, Virtual, “Bars in Galaxies”, invited plenary talk

2020 SDSS-IV/SDSS-V Meeting, Virtual, “Exploring the Stellar Age Distribution of the Milky Way Bulge using APOGEE”, contributed talk.

2020 NSF Symposium Honolulu, “The High-altitude Balloon Project”, contributed talk

2019 Flatiron, NYC, “APOGEE Chemical Abundances of the Large Magellanic Cloud”, contributed talk

2019 SDSS-IV Meeting, Ensenada, “APOGEE Chemical Abundances of the Large Magellanic Cloud”, contributed talk

2019 SDSS-IV Meeting, Ensenada, “Stellar Chemodynamics 101”, plenary talk.

2019 AAS Seattle, “APOGEE Chemical Abundances of the Large Magellanic Cloud”, contributed talk

2018 Chemical Evolution and Nucleosynthesis Across the Galaxy, Heidelberg, “APOGEE Chemical Abundances of the Large Magellanic Cloud”, contributed talk

2018 HEAP Seminar, University of Utah, “APOGEE Chemical Abundances of the Sagittarius Dwarf Galaxy System”, invited talk

2018 Summer AAS Dwarf Galaxies Meeting, “APOGEE Chemical Abundances of the Sagittarius Dwarf Galaxy System”, invited talk

2018 Galaxies & Cosmology Seminar, Harvard CFA ITC, “APOGEE Chemical Abundances of the Sagittarius System”, invited talk

2018 AAS, National Harbor, “APOGEE [C/N] Abundances Across the Milky Way”, contributed talk

2017 Extragalactic Seminar, UT Austin, “APOGEE Chemical Abundances of the Sagittarius Dwarf and MW”, invited talk

2017 CASA lunch seminar, CU Boulder, “APOGEE Chemical Abundances of the Sagittarius Dwarf and MW”, invited talk

2017 APOGEE meeting, Pasadena, “APOGEE Chemically Peculiar A & B Stars”, contributed talk

2017 AAS, Grapevine, “Latest Results from the Sloan Digital Sky Survey”, press conference

2017 AAS, Grapevine, “APOGEE Chemical Abundances of the Sagittarius Dwarf Galaxy”, contributed talk

2016 NM Symposium, Socorro, “APOGEE Chemical Abundances of the Sagittarius Dwarf Galaxy”, contributed talk

2016 SDSS meeting, Madison, “Identifying Sagittarius Stars in the Milky Way Halo”, contributed talk

2016 APOGEE meeting, Madison, “*Chemical Abundances of the Core of Sgr,*” contributed talk

2015 AAS, Seattle, “*Detection of Neodymium in APOGEE H-band Spectra and its Application to Chemical Tagging*”, Special Session, contributed talk

2014 NM Symposium, Socorro, “*Detection of Neodymium in APOGEE H-band Spectra and its Application to Chemical Tagging*”, contributed talk

2014 AAS, National Harbor, “*Dynamical and Population Gradients Within the Sagittarius dSph Galaxy*”, contributed poster

2013 SDSS meeting, Baltimore, “*APOGEE Observations of Sgr dSph*”, contributed talk

2013 APOGEE meeting, Pasadena, “*APOGEE Observations of the Heart of the Sagittarius dSph Galaxy*”, contributed talk

2013 AAS, Long Beach, “*APOGEE Observations of the Center of the Sagittarius dSph Galaxy*”, contributed poster

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## References

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### **Jon Holtzman**

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### **Katia Cunha**

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### **Matthew Shetrone**

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### **Gail Zasowski**

Assistant Professor  
University of Utah, Dept. of Physics & Astronomy  
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## Publications

as third author, many as Nth author.

1. **Hasselquist, S.**; Hayes, C.; et al. "APOGEE Chemical Abundance Patterns of the Massive Milky Way Satellites" [accepted for publication in ApJ](#) 09/2021
2. Weinberg, David H.; Holtzman, Jon A.; ...; **Hasselquist, S.**; et al. "Chemical Cartography with APOGEE: Mapping Disk Populations with a Two-Process Model and Residual Abundances" [arXiv:2108.08860](#) 08/2021
3. Lewis, Hannah M. ; Anguiano, Borja; ...; **Hasselquist, S.**; et al. "Close substellar-mass companions in stellar wide binaries: Discovery and characterization with APOGEE and Gaia DR2" [MNRAS, tmp, 2137L](#) 08/2021
4. Kisku, Shobhit; Schiavon, Ricardo P.; ...; **Hasselquist, S.**; et al. "An enquiry on the origins of N-rich stars in the inner Galaxy based on APOGEE chemical compositions" [MNRAS, 504, 1657K](#) 06/2021
5. Smith, Verne V. ; Bizyaev, Dmitry; ...; **Hasselquist, S.**; et al. "The APOGEE Data Release 16 Spectral Line List" [AJ, 161, 254S](#) 06/2021
6. Sheffield, Allyson A.; Subrahimovic, Aidan Z.; ...; **Hasselquist, S.**; et al. "Chemodynamically Characterizing the Jhelum Stellar Stream with APOGEE-2" [ApJ, 913, 39S](#) 05/2021
7. Ashok, Aishwarya; Zasowski, Gail; ...; **Hasselquist, S.**; et al. "The APOGEE Library of Infrared SSP Templates (A-LIST): High-resolution Simple Stellar Population Spectral Models in the H Band" [AJ, 161, 167A](#) 04/2021
8. Price-Whelan, Adrian M.; Hogg, David W.; ...; **Hasselquist, S.**; et al. "Orbital Torus Imaging: Using Element Abundances to Map Orbits and Mass in the Milky Way" [ApJ, 910, 17P](#) 03/2021
9. Griffith, Emily; Weinberg, David H.; ...; **Hasselquist, S.**; et al. "The Similarity of Abundance Ratio Trends and Nucleosynthetic Patterns in the Milky Way Disk and Bulge" [ApJ, 909, 77G](#) 03/2021
10. Kisku, Shobhit; Schiavon, Ricardo P.; ...; **Hasselquist, S.**; et al. "An enquiry on the origins of N-rich stars in the inner Galaxy based on APOGEE chemical compositions" [MNRAS,tmp..569K](#) 02/2021
11. Horta, Danny; Mackereth, J. Ted; ...; **Hasselquist, S.**; et al. "The contribution of N-rich stars to the Galactic stellar halo using APOGEE red giants" [MNRAS, 500, 5462H](#) 01/2021
12. Horta, Danny; Schiavon, Ricardo P.; ...; **Hasselquist, S.**; et al. "Evidence from APOGEE for the presence of a major building block of the halo buried in the inner Galaxy" [MNRAS, 500, 1385H](#) 01/2021
13. Lian, Jianhui; Zasowski, Gail; **Hasselquist, Sten**; et al. "The chemical properties of the Milky Way's on-bar and off-bar regions: evidence for inhomogeneous star formation history in the bulge" [MNRAS, 500, 282L](#) 01/2021
14. Cheng, Xinlun; Anguiano, Borja; ...; **Hasselquist, S.**; et al.

“Exploring the Galactic Warp through Asymmetries in the Kinematics of the Galactic Disk” [ApJ, 905, 49C](#) 12/2020

15. Poovelil, Vijith Jacob; Zasowski, G.; **Hasselquist, S.**; et al. “Open Cluster Chemical Homogeneity throughout the Milky Way” [ApJ, 903, 55P](#) 11/2020
16. Lian, Jianhui; Zasowski, Gail; **Hasselquist, Sten**; et al. “The chemical properties of the Milky Way’s on-bar and off-bar regions: evidence for inhomogeneous star formation history in the bulge” [MNRAS, 500, 282L](#) 10/2020
17. **Hasselquist, Sten**; Zasowski, Gail; Feuillet, Diane K.; et al. “Exploring the stellar age distribution of the Milky Way Bulge using APOGEE” [ApJ, 901, 109H](#) 10/2020
18. Schultheis, M.; Rojas-Arriagada, A.; ...; **Hasselquist, S.**; et al. “Cool stars in the Galactic center as seen by APOGEE. M giants, AGB stars, and supergiant stars and candidates” [A&A, 642A, 81S](#) 10/2020
19. Rojas-Arriagada, Alvaro; Zasowski, Gail; ...; **Hasselquist, S.**; et al. “How many components? Quantifying the complexity of the metallicity distribution in the Milky Way bulge with APOGEE” [MNRAS, 499, 1037R](#) 09/2020
20. Jönsson, Henrik; Holtzman, Jon A.; ...; **Hasselquist, S.**; et al. “APOGEE Data and Spectral Analysis from SDSS Data Release 16: Seven Years of Observations Including First Results from APOGEE-South” [AJ, 160, 120J](#) 09/2020
21. Lian, Jianhui; Zasowski, Gail; **Hasselquist, S.**; et al. “The Milky Way’s bulge star formation history as constrained from its bimodal chemical abundance distribution” [MNRAS, 497, 3557L](#) 07/2020
22. Ahumada, Romina; Allende Prieto, Carlos; ...; **Hasselquist, S.**; et al. “The 16th Data Release of the Sloan Digital Sky Surveys: First Release from the APOGEE-2 Southern Survey and Full Release of eBOSS Spectra” [ApJS, 249, 3A](#) 07/2020
23. Chojnowski, S. Drew; Hubrig, Svetlana; **Hasselquist, S.**; et al. “The SDSS/APOGEE catalogue of HgMn stars” [MNRAS, 496, 832C](#) 06/2020
24. Nidever, David L.; **Hasselquist, S.**; Hayes, Christian R.; et al. “The Lazy Giants: APOGEE Abundances Reveal Low Star Formation Efficiencies in the Magellanic Clouds” [ApJ, 895, 88N](#) 06/2020
25. Price-Whelan, Adrian M.; Hogg, David W.; ...; **Hasselquist, S.**; et al. “Close Binary Companions to APOGEE DR16 Stars: 20,000 Binary-star Systems Across the Color-Magnitude Diagram” [ApJ, 895, 2P](#) 05/2020
26. Donor, John; Frinchaboy, Peter M.; ...; **Hasselquist, S.**; et al. “The Open Cluster Chemical Abundances and Mapping Survey. IV. Abundances for 128 Open Clusters Using SDSS/APOGEE DR16” [AJ, 159, 199D](#) 05/2020
27. Horta, Danny; Schiavon, Ricardo P.; ...; **Hasselquist, S.**; et al. “The chemical compositions of accreted and in situ galactic globular clusters according to SDSS/APOGEE” [MNRAS, 493, 3363H](#)

04/2020

28. Mészáros, Szabolcs; Masseron, Thomas; ...; **Hasselquist, S.**; et al. "Homogeneous analysis of globular clusters from the APOGEE survey with the BACCHUS code - II. The Southern clusters and overview" [MNRAS, 492, 1641M](#) 02/2020
29. Hayes, C. R.; Majewski, S.; **Hasselquist, S.**; et al. "Metallicity and  $\alpha$ -Element Abundance Gradients along the Sagittarius Stream as Seen by APOGEE" [ApJ, 889, 63H](#) 01/2020
30. Fernández-Trincado, J. G.; Zamora, O.; ...; **Hasselquist S.**; et al. "H-band discovery of additional second-generation stars in the Galactic bulge globular cluster NGC 6522 as observed by APOGEE and Gaia" [A&A, 627A, 178F](#) 07/2019
31. Weinberg, D. H.; Holtzman, J. A.; **Hasselquist, S.**; "Chemical Cartography with APOGEE: Multi-element Abundance Ratios" [ApJ, 874, 102W](#) 03/2019
32. Chojnowski, S. D.; Hubrig, S.; **Hasselquist, S.**; et al. "Discovery of Resolved Magnetically Split Lines in SDSS/APOGEE Spectra of 157 Ap/Bp Stars" [ApJ, 873L, 5C](#) 03/2019
33. Aguado, D. S.; Ahumada, R.; ...; **Hasselquist, S.**; et al. "The Fifteenth Data Release of the Sloan Digital Sky Surveys: First Release of MaNGA-derived Quantities, Data Visualization Tools, and Stellar Library" [ApJS, 240, 23A](#) 02/2019
34. Shetrone, Matthew; Tayar, Jamie; ...; **Hasselquist, S.**; et al. "Constraining Metallicity-dependent Mixing and Extra Mixing Using [C/N] in Alpha-rich Field Giants" [ApJ, 872, 137S](#) 02/2019
35. **Hasselquist, S.**; Carlin, J. L.; Holtzman, J. A. .; et al., "Identifying Sagittarius Stream Stars by Their APOGEE Chemical Abundance Signatures" [ApJ, 872, 57H](#) 02/2019
36. **Hasselquist, S.**; Holtzman, J. A.; Shetrone, M.; et al. "APOGEE [C/N] Abundances across the Galaxy: Migration and Infall from Red Giant Ages" [ApJ, 871, 181H](#) 02/2019
37. Mackereth, J. Ted; Schiavon, Ricardo P.; Pfeffer, Joel; ...; **Hasselquist, S.**; et al. "The origin of accreted stellar halo populations in the Milky Way using APOGEE, Gaia, and the EAGLE simulations" [MNRAS, 482, 3426M](#) 01/2019
38. Chojnowski, S. Drew; Labadie-Bartz, Jonathan; Rivinius, Thomas; ...; **Hasselquist, S.**; et al. "The Remarkable Be+sdOB Binary HD 55606. I. Orbital and Stellar Parameters" [ApJ, 865, 76C](#) 09/2018
39. Jönsson, H.; Allende Prieto, C.; Holtzman, J. ; ...; **Hasselquist, S.**; et al. "APOGEE Data Releases 13 and 14: Stellar Parameter and Abundance Comparisons with Independent Analyses" [AJ, 156, 126J](#) 09/2018
40. Holtzman, J. A.; **Hasselquist, S.**; Shetrone, M.; et al. "APOGEE Data Releases 13 and 14: Data and Analysis" [AJ, 156, 125H](#) 09/2018
41. Schiappacasse-Ulloa, J.; Tang, B.; Fernández-Trincado, J. G.; ...; **Hasselquist, S.**; et al. "A Chemical and Kinematical Analysis of the



Intermediate-age Open Cluster IC 166 from APOGEE and Gaia DR2”  
[AJ. 156. 94S](#) 09/2018

42. Molenda-żakowicz, Joanna; Gray, Richard O.; Corbally, Christopher J.; ...; **Hasselquist, S.**; et al. “Spectroscopic investigation of selected  $\lambda$  Boo - type stars” [pas7.conf. 201M](#) 08/2018
43. Holtzman, J. A.; **Hasselquist, S.**; SDSS-IV/APOGEE-2 Collaboration. “APOGEE: the Sloan Digital Sky Survey Apache Point Observatory Galactic Evolution Experiment. Insights into the Galactic Disk: A Review” [IAUS. 334. 101H](#) 08/2018
44. Hayes, C. R.; Majewski, S. R.; **Hasselquist, S.**; et al. “Disk-like Chemistry of the Triangulum-Andromeda Overdensity as Seen by APOGEE” [ApJ. 859L. 8H](#) 05/2018
45. Abolfathi, B.; Aguado, D. S.; Aguilar, G.; ...; **Hasselquist, S.**; et al. “The Fourteenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the extended Baryon Oscillation Sky Survey and from the second phase of the Apache Point Observatory Galactic Evolution Experiment” [ApJS. 235. 42A](#) 04/2018.
46. Tang, B.; Fernandez-Trincado, J.G.; Geisler, D.; ...; **Hasselquist, S.**; et al. “The Metal-poor non-Sagittarius (?) Globular Cluster NGC 5053: Orbit and Mg, Al, and Si Abundances” [ApJ. 855. 38T](#) 03/2018
47. Fernandez-Trincado, J. G.; Zamora, O.; Souto, D. ; ...; **Hasselquist, S.**; et al. “H-band discovery of additional second-generation stars in the Galactic bulge globular cluster NGC 6522” [arxiv eprint](#) 01/2018.
48. Albareti, F. D.; Allende Prieto C.; Almeida, A.; ...; **Hasselquist, S.**; et al. “The Thirteenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-IV Survey MAPPING Nearby Galaxies at Apache Point Observatory” [ApJS. 233. 25A](#) 12/2017.
49. Fernandez-Trincado, J. G.; Zamora, O.; Garcia-Hernandez, D. A.; ...; **Hasselquist, S.**; et al. “Atypical Mg-poor Milky Way field stars with globular cluster second-generation like chemical patterns” [ApJ. 846L. 2E](#) 09/2017.
50. Majewski, S. R.; Schiavon, R. P.; Frinchaboy, P. M.; ...; **Hasselquist, S.**; et al. “The Apache Point Observatory Galactic Evolution Experiment (APOGEE)” [AJ. 154. 94M.](#) 09/2017
51. **Hasselquist, S.**; Shetrone, M.; Smith, V. V.; et al. “APOGEE Chemical Abundances of the Sagittarius Dwarf Galaxy” [ApJ. 845. 2.](#) 08/2017
52. Cunha, K.; Smith, V. V.; **Hasselquist, S.**; et al. “Adding the s-Process Element Cerium to the APOGEE Survey: Identification and Characterization of Ce II Lines in the H-band Spectral Window” [ApJ. 844. 145C.](#) 08/2017.
53. Pereira, C. B.; Smith, V. V.; Drake, N. A.; Roig, F.; **Hasselquist, S.**; et al. “Chemical abundances and kinematics of TYC 5619-109-1” [MNRAS. 469. 774P.](#) 07/2017.
54. Blanton, M. R.; Bershady, M. A.; Abolfathi, B.; ...; **Hasselquist, S.**; et al. “Sloan Digital Sky Survey IV: Mapping the Milky Way, Nearby

*Galaxies, and the Distant Universe*" [AJ. 154. 28B](#), 07/2017

55. Hogg, David W.; Casey, A. R.; Ness, M.; Rix, Hans-Walter; Foreman-Mackey, D.; **Hasselquist, S.**; et al. "Chemical Tagging Campaign: Identification of Stellar Phase-space Structures Purely by Chemical-abundance Similarity" [ApJ. 833. 262H](#), 12/2016.
56. **Hasselquist, S.**; Shetrone, M.; Cunha, K.; et al. "Identification of Neodymium in the Apogee H-Band Spectra" [ApJ. 833. 81](#), 12/2016.
57. Holtzman, J. A.; Shetrone, M.; Johnson, J. A.; ...; **Hasselquist, S.** et al. "Abundances, Stellar Parameters, and Spectra from the SDSS-III/APOGEE Survey" [AJ. 150. 148H](#), 11/2015.
58. Alam, S.; Albareti, F.-D.; Allende Prieto, C.; ...; **Hasselquist, S.**; et al. "The Eleventh and Twelfth Data Releases of the Sloan Digital Sky Survey: Final Data from SDSS-III" [ApJS. 219. 12A](#), 07/2015.
59. Chojnowski, S. D.; Whelan, D. G.; Wisniewski, J. P.; ...; **Hasselquist, S.**; et al. "High-Resolution H-Band Spectroscopy of Be Stars With SDSS-III/Apogee: I. New Be Stars, Line Identifications, and Line Profiles" [AJ. 149. 7C](#), 01/2015.
60. Majewski, S. R.; Law, D. R.; **Hasselquist, S.**; & Damke, G.; "Lessons from the Sagittarius dSph Tidal Stream" ed. K. Freeman, B. Elmegreen; Springer Publishing; 11/2014
61. Hayden, M. R.; Holtzman, J. A.; Bovy, J.; ...; **Hasselquist, S.**; et al. "Chemical Cartography with APOGEE: Large-scale Mean Metallicity Maps of the Milky Way Disk" [AJ. 147. 116H](#), 05/2014.
62. Ahn, C. P.; Alexandroff, R.; Allende Prieto, C.; ...; **Hasselquist, S.** et al. "The Tenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-III Apache Point Observatory Galactic Evolution Experiment" [ApJS. 211. 17A](#), 04/2014.
63. Majewski, S. R.; **Hasselquist, S.**; Lokas, E. L.; et al. "Discovery of a Dynamical Cold Point in the Heart of the Sagittarius dSph Galaxy with Observations from the APOGEE Project" [ApJL. 777. L13](#), 11/2013.
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