

Apurva V. OZA

JPL/CALTECH · EXOVOLCANISM & ATMOSPHERIC ESCAPE

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→ **[Exo]planet-Exomoon Evolution** →

Professional

Jet Propulsion Laboratory / California Institute of Technology

Office of the Chief Scientist

POSTDOCTORAL FELLOW

June 2021 -

Physikalisches Institut, Universität Bern

Planet Formation & Evolution (G)

VISITING LECTURER

2021-

"Planets in Time" Group

POSTDOCTORAL RESEARCHER

Nov. 2017 - 2020

Education

Sorbonne Universités VI: Pierre and Marie Curie University

Paris, FRANCE

PH.D ASTRONOMY & ASTROPHYSICS

Sep 28, 2017

- Thesis: Detection and Dynamics of Satellite Exospheres
- Advisor: Francois Leblanc; Co-advisor: Jean-Jacques Berthelier

University of Virginia Department of Astronomy

Charlottesville, Virginia

MASTER OF SCIENCE – ASTRONOMY

Sep 2012- May 2014

- Project: Atmospheric Evolution Modeling and Spectral Search for Tidally-Heated Exomoons.
- Advisor: Robert E. Johnson

University of North Carolina at Chapel Hill

Chapel Hill, North Carolina

B.S. PHYSICS & ASTRONOMY, *summa cum laude*

August 2008- May 2012

- Thesis: Modeling the Afterglow of GRB 091018A: Spectral Evolution and Evidence for a Progenitor-Driven Superwind.
- Advisor: Daniel E. Reichart

University of Toulouse III

Toulouse, France

L3, PHYSIQUE FONDAMENTALE ET M1 ASTROPHYSIQUE: (1-YR EXCHANGE STUDENT.)

Sep. 2010 - June 2011

North Carolina School of Science and Mathematics

Durham, North Carolina

Aug. 2006- May 2008

Students

Andrea Gebek

(advisor)

University of Bern, Switzerland

UNDERGRADUATE THESIS: EVOLUTION OF ESCAPING EXOPLANETARY ATMOSPHERES IN SPACE AND TIME

October, 2018

Lukas Affolter

(co-advisor)

University of Bern, Switzerland

MASTERS THESIS: PLANETARY EVOLUTION DRIVEN BY ATMOSPHERIC ESCAPE III: HYDRODYNAMIC ESCAPE OF SUB-NEPTUNES TO SUPER EARTHS

2019-2021

Observational Programs

VLT/ESPRESSO	PI	<i>3 half nights</i> 2020B and 2021A
Anomalous sodium at WASP-49b: Evidence of circumplanetary evaporation akin to the Jupiter system?		
GMRT	PI	<i>12 hours</i> 2021A
Novel Method to Detect Active Exomoons : Moon-Induced Cyclotron Emission		
KECK/HIRES	Science PI	<i>4 half nights</i> 2019-2020
Evidence for Exogenic Metals at Two Close-in Gas Giant Systems?		
LBT/LMIRCAM	Co-I	<i>1 half-night</i> 2014
Direct Atmospheric Characterization of HR8799b&c		
APO/ARCES	PI	<i>4 half-nights</i> 2013; 2014
Detecting Evaporating Exomoons from Transits Using Transmission Spectroscopy		

Peer-Review Service and Affiliations

Universe

2020-

EDITOR

Frontiers in Astronomy and Space Sciences

2020-2022

SPECIAL ISSUE: EXOMOONS AND EXORINGS: THE NEXT FRONTIER IN EXOPLANETS TOPIC EDITOR

The Astrophysical Journal, Nature Astronomy, Geosciences, PASP

2018-

REFEREE

CHEOPS (CHaracterising ExOPlanets Satellite)

2019 -

SCIENCE TEAM COLLABORATOR FOR FEATURE CHARACTERIZE TEAM

NASA Solar System Workings Program

2018

REVIEWER

TEACHING

G = Graduate course; U = undergraduate

F.2018;		
F.2019.		
F.2020	Lecturer: Planet Formation & Evolution (G) , with Professor Yann Alibert	University of Bern
(Zoom)		
F.2021		
July. 2019	Visiting Lecturer , Introduction to Planetary Astrophysics (G)	Indian Institute of Astrophysics; Raman Research Institute
S.2018	Instructor: Physik II (U) , Electromagnetism & Modern Physics	University of Bern
2012-2014	Instructor & Grader: Introductory Astronomy Courses (U) , 320 Hours	UVA
2013-2014	Developed new course: Astr 1221 Skynet Virginia (U) , with Professor Edward Murphy	UVA
2013-2014	Developed new course: Astr 1270R: Physics of the Unsolved Mysteries of the Universe (U) , with Professor Kelsey Johnson	UVA
2013, 2014	Instructor: Educational Research in Radio Astronomy (ERIRA) (U) , Lead Polarization Project	Green Bank, WV, USA
2012	Guest Lecturer: Astr 1210, 1270 (U) , Intro Astronomy & Unsolved Mysteries of the Universe	UVA
2011-2012	Teaching Assistant (U) , Skynet Astronomy Labs	UNC

Honors & Awards

2016	2nd place presentation , National Solar & Terrestrial Conference (PNST)	Hendaye, France
2013, 2014	Hearst Fellowship in the Biological and Physical Sciences , \$6000	Virginia, USA
2012	Robert Shelton Award for Outstanding Research , UNC Department of Physics & Astronomy	North Carolina, USA
2009-2012	NASA Space Grant Research Fellowship , \$12,500	North Carolina, USA
2007	Best Undergraduate Poster , American Physical Society	Tennessee, USA

Education Public Outreach & Initiatives

Jan. 2018 - present	Visiting Scientist: Indian Planetary Society ,	Gujarat, India
2017	Finalist Science Magazine's , Dance Your PhD Competition.	Paris, France
2016 -	Founder: CafeAstroParisien , Monthly Astronomy Discussions	Paris, France
2011-2014	Telescope Operator & Educator: Public Nights. , McCormick & Morehead Observatories.	UVA & UNC
2011-2012	Morehead Planetarium Educator , Carolina Skies Full Dome Theater Lectures	North Carolina, USA
2012-2014	Planetarium Educator , EPO Initiative: Dark Skies Bright Kids .	Virginia USA
2008-2012	Staff Writer , Carolina Scientific	UNC
2007	Mathematics Instructor , EPO Initiative: Akanksha	Maharashtra, India

PUBLICATIONS

FIRST & DUAL-AUTHOR PEER-REVIEWED PUBLICATIONS

8. Mayank Narang, **Apurva V. Oza**, Kaustubh Hakim, Manoj Puravankara, Ravinder Banyal, and Daniel P Thorngren. "Radio-Loud Exoplanet-Exomoon Survey (RLEES): GMRT Search for Electron Cyclotron Maser Emission." 2021, *The Astrophysical Journal*, *submitted*.
7. A.Gebek & **A.V. Oza**. [Alkaline Exospheres of Exoplanet Systems: Evaporative Transmission Spectra](#). 2020, *Monthly Notices of the Royal Astronomical Society*, Volume 497, Issue 4, Pages 5271–5291
6. **A.V. Oza**, R.E. Johnson, E. Lellouch, C.Schmidt, N.Schneider, C.Huang, D.Gamborino, A.Gebek, A.Wytenbach, B.-O. Demory, C.Mordasini, P. Saxena, D.Dubois, A.Moulet, and N.Thomas. [Sodium and Potassium Signatures of Volcanic Satellites Orbiting Close-in Gas Giant Exoplanets](#).

2019, *The Astrophysical Journal*, 885(2), 168.

5. R.E. Johnson, **A.V. Oza**, F. Leblanc, C. Schmidt, T.A. Nordheim, and T.A. Cassidy. [The Origin and Fate of O₂ in Europa's Ice: An Atmospheric Perspective](#). 2019, *Space Science Reviews*, 215(1), 20.
4. **A.V. Oza**, F. Leblanc, R.E. Johnson, C. Schmidt, L. Leclercq, T.A. Cassidy, and J.Y. Chaufray. [Dusk-Over Dawn O₂ Asymmetry in Europa's Near-Surface Atmosphere](#). 2019, *Planetary and Space Science*, 167, 23-32.
3. **A.V. Oza**, R.E. Johnson, and F. Leblanc. [Dusk/dawn atmospheric asymmetries on tidally-locked satellites: O₂ at Europa](#). 2018, *Icarus*, Volume 305, p.50-55.
2. F. Leblanc, **A.V. Oza**, L. Leclercq, C. Schmidt, T.A. Cassidy, R. Modolo, J.Y. Chaufray, and R.E. Johnson. [On the Orbital Variability of Ganymede's Atmosphere](#). 2017, *Icarus* 293, 185-198.
1. R. E. Johnson, **A.V. Oza**, L. A. Young, A. N. Volkov, and C. Schmidt. [Volatile Loss and Classification of Kuiper Belt Objects](#). 2015, *The Astrophysical Journal*, Volume 809, Issue 1, article id. 43, 9 pp.

PEER-REVIEWED GROUP PUBLICATIONS

13. Marc Hesse, Jacob S. Jordan, Steven D. Vance, and **Apurva V. Oza** . "Downward Oxidant Transport Through Europa's Ice Shell by Density-Driven Brine Percolation" 2021, *Geophysical Research Letters*, *in review*.
12. LIFE collaboration et al. incl. **A.V. Oza** . [Large Interferometer For Exoplanets \(LIFE\): I. Improved exoplanet detection yield estimates for a large mid-infrared space-interferometer mission](#) 2021, eprint [arXiv:2101.07500](#), *Astronomy & Astrophysics*, *in review*.
11. T. Bertrand, E. Lellouch, B.J. Holler et al. incl. **A.V. Oza** . [Volatile Transport Modeling on Triton With New Observational Constraints](#) 2021, *Icarus*, *in press*.
10. N. Jäggi et al. incl. **A.V. Oza** . [Evolution of Mercury's Earliest Atmosphere](#) 2021, *Planetary Science Journal*, *in press*.
9. S. Charnoz et al. incl. **A.V. Oza** . [Tidal pull of the Earth strips the proto-Moon of its volatiles](#). 2021, *Icarus*, Volume 364, 114451.
8. H. Jens Hoeijmakers et al. incl. **A.V. Oza** . [Hot Exoplanet Atmospheres Resolved with Transit Spectroscopy \(HEARTS\). IV. A spectral inventory of atoms and molecules in the high-resolution transmission spectrum of WASP-121 b](#). 2020, *Astronomy & Astrophysics*, Volume 641, id.A123, 26 pp
7. D.J. Bower, D. Kitzmann, A. Wolf et al. and **A.V. Oza** [Linking the evolution of terrestrial interiors and an early outgassed atmosphere to astrophysical observations](#). 2019, *Astronomy & Astrophysics*, Volume 631, A103.
6. J. Stone, A. Skemer, P. Hinz, et al. incl. **A.V. Oza** [The LEECH Exoplanet Imaging Survey: Limits on Planet Occurrence Rates Under Conservative Assumptions](#). 2018, *The Astronomical Journal*, 156 (6), 286.

5. A. Skemer, C. Morley, N. Zimmerman, et al. incl. **A.V. Oza**. [The LEECH Exoplanet Imaging Survey: Characterization of the Coldest Directly Imaged Exoplanet, GJ 504 b, and Evidence for Superstellar Metallicity](#). 2016, *The Astrophysical Journal*, Volume 817, Issue 2, article id. 166, 10 pp.
4. A.-L. Maire, A. Skemer, P.M. Hinz, et al. incl. **A.V. Oza**. [The LEECH Exoplanet Imaging Survey. Further constraints on the planet architecture of the HR 8799 system](#). 2015, *Astronomy & Astrophysics*, Volume 576, id.A133, 10 pp.
3. Edward L. Wright, J. Davy Kirkpatrick, Christopher R. Gelino, Sergio Fajardo-Acosta, Gregory Mace, Peter R. Eisenhardt, Daniel Stern, Ian S. McLean, M. F. Skrutskie, **Apurva V. Oza**, M. J. Nelson, Michael C. Cushing, I. Neil Reid, Michele Fumagalli, Adam J. Burgasser. [The First AllWISE Proper Motion Discovery: WISEA J070720.50+170532.7](#). 2014, *The Astronomical Journal*, Volume 147, Issue 3, article id. 61, 8.
2. P. Petit, F. Lignières, G.A. Wade, M. Aurière, D. Alina, T. Böhm, **A.V. Oza**. [Weak magnetic fields of intermediate-mass stars](#). 2011, *Astronomische Nachrichten*, Vol.332, Issue 9/10, p.943.
1. P. Petit, F. Lignières, M. Aurière, G.A. Wade, D. Alina, J. Ballot, T. Böhm, L. Jouve, **A.V. Oza**, F. Paletou, S. Théado. [Detection of a weak surface magnetic field on Sirius A: are all tepid stars magnetic?](#) 2011, *Astronomy & Astrophysics*, Volume 532, id.L13.

CONFERENCE PROCEEDINGS & SELECTED PRESENTATIONS

58. **Apurva V. Oza** "[Extrasolar] lunar volatile evolution: Sodium Oxygen Outgassing" (Invited Talk) JHU/STSCI, Friends of the Lunar Volatiles Seminar (Oct. 2021).
57. **Apurva V. Oza** "Outgassing [exo]moons and [exo]planets : Volcanism and atmospheric escape benchmarked to Io and Europa" (Invited Talk) JPL/Caltech, Science and Visitor Colloquium Program (Sep. 2021).
56. Jäggi, N. et al. incl. **A V. Oza** [Early Mercury's magma ocean atmosphere](#) (Talk) vEGU21, the 23rd EGU General Assembly, id.EGU21-4011 (April 2021).
55. **Apurva V. Oza** "Volcanic Tides on Exoplanets Exomoons: A Geosciences Review of [Na] [K] as a Trace Volatile Orbiting Sun-like Stars" (Invited Talk) University of Texas at Austin, Seminar Series (April 2021).
54. Charnoz, S. et al. incl. **A V. Oza** [Tidal Pull of the Earth Strips the Proto-Moon of Its Volatiles](#) 52nd LPSC, LPI Contribution No. 2548, id.1326 (March 2021).
53. Hesse, M. et al. incl. **A V. Oza** [Transport of surface oxidants into internal oceans by brine migration through ice shells](#) AASTCS8, Habitable Worlds 2021, id. 1041. BAAS, Vol. 53, No. 3 e-id 2021n3i1041 (March 2021).
52. **Apurva V. Oza** [On the Origin of Evaporating Metals at Exoplanet Systems: Evaporating Exomoons?](#) (Invited Talk) NYU, Space Science Series, Abu Dhabi (Dec. 2020).
51. **Apurva V. Oza**. and Robert E. Johnson. [A common origin of oxygen at Jupiter's icy moons and comets: Modeling thermal outgassing at Europa](#). (Talk), AAS Division of Planetary Science meeting 52, id. 215.01. Bulletin of the American Astronomical Society, Vol. 52, No. 6. (Oct. 2020)
50. D. Dubois, **Apurva V. Oza**., and J. Radebaugh. [The Sulfur Conundrum on Titan: Cryovolcanism, Outgassing, and Chemical Impact on the Atmosphere](#). AAS Division of Planetary Science meeting 52, id. 218.04. Bulletin of the American Astronomical Society, Vol. 52, No. 6. (Oct. 2020)
49. Gamborino, D. et al. including **Oza, A.V.**. [A Magma Ocean Origin for Mercury's Earliest Exosphere](#). 14th Europlanet Science Congress 2020, held virtually, id. EPSC2020-571 (Sep. 2020).

48. **Oza, Apurva V.** [Observing Above Exoplanets: Sodium Signatures of Volcanically-Active Exomoons](#). (Invited Talk) Tata Institute for Fundamental Research, TIFR Seminar, Mumbai, India (Sep. 2020).
47. **Oza, A.V.**, Charnoz, S., and Johnson, R.E. [Detection of Exomoons or Debris Orbiting Exoplanets](#). Exoplanets in Our Backyard: Solar System and Exoplanet Synergies on Planetary Formation, Evolution, and Habitability (Feb. 2020)
46. Rubin, M. et al. including **Oza, A.V.** [Irradiation of water ice samples in the laboratory: Implications for surface processes on icy moons and comets](#) AGU Fall Meeting Abstracts (Dec. 2019)
45. **Oza, A.V.** & Mordasini, C. [Planetary Evolution Driven by Atmospheric Escape: Sub-Neptune to Super-Earth Transition over a Range of Stellar Types](#) (Talk). DPS/EPSC, Geneva (Sep. 2019)
44. **Oza, A.V.** et al. 2019. [Extrasolar Volcanic Activity on the Magmatic Super Earth 55 Cancri-e](#) (Poster). DPS/EPSC, Geneva (Sep. 2019)
43. Gebek, A. & **Oza, A.V.**. [Nonhydrostatic Density Profiles of Sodium & Potassium at Close-in Gas Giant Exoplanets](#) (Talk) DPS/EPSC, Geneva (Sep. 2019)
42. Leblanc, F. et al. 2019 including **Oza, A.V.**. [Modelling of Europa's Plume](#) (Poster). DPS/EPSC, Geneva (Sep. 2019)
41. Gamborino, D. et al. 2019 including **Oza, A.V.**. [Silicate Atmospheres: A study of proto-Mercury](#) (Poster). DPS/EPSC, Geneva (Sep. 2019)
40. Bower, D.J. et al. 2019 including **Oza, A.V.**. [Linking the evolution of terrestrial interiors and an early outgassed atmosphere to astrophysical observations](#) (Poster). DPS/EPSC, Geneva (Sep. 2019)
39. Galli, A. et al. 2019 including **Oza, A.V.**. [Laboratory analogues for the icy moons of Jupiter – The added value of a time-of-flight mass spectrometer](#) (Poster). DPS/EPSC, Geneva (Sep. 2019)
38. Johnson, R.E. & **Oza, A.V.** Sodium Signatures of Satellites Orbiting Close-in Gas Giant Exoplanets (Solicited Talk). DPS/EPSC, Geneva (Sep. 2019)
37. Bolmont, E., **Oza, A.V.**, et al. 2019. [Survival of satellites during the migration of a Hot Jupiter: the influence of tides](#) (Talk). DPS/EPSC, Geneva (Sep. 2019)
36. **Oza, A.V.** et al. 2019. [Alkaline Signatures of Active Exomoons](#) (Poster). Extreme Solar Systems IV, Reykjavik, Iceland.
35. **Oza, A.V.** & C. Dorn et al. 2019. [A New Class of Super-Earths](#) (Talk). Extreme Solar Systems IV, Reykjavik, Iceland.
34. **Oza, A.V.** et al. 2019. [Rocky Exomoon Signatures Hidden in the Spectra of Close-in Gas Giant Exoplanets](#). (Invited Talk) Indian Institute of Astrophysics, Seminar, Bangalore, India.
33. **Apurva V. Oza** 2019. [Evaporating Exomoons](#). (Talk) University of Chicago, Chicago, USA.
32. **Oza, A.V.** et al. 2019. [Illuminating the Magnetospheres of Close-in Giant Exoplanets: Metallic Signatures of Volcanic Exomoons](#). (Invited Talk) Raman Research Institute, Bangalore, India.
31. **Oza, A.V.** et al. 2018. [Na & K at Close-in Exoplanets: Evidence for Geologically-Active Satellites?](#) (Talk) New York University, New York, USA.
30. **Oza, A.V.** et al. 2018. [O₂ Outgassing at Icy Satellites and Comets](#). (Talk) American Astronomical Society, DPS meeting 50, id.403.03
29. **Oza, A.V.** et al. 2018. [Exogenic Volatiles in the Extended Exospheres of Extrasolar Giant Planets](#). (Talk) European Planetary Science Congress, Berlin, Germany.
28. **Oza, A.V.** et al. 2018. [Distinguishing Exogenic and Endogenic Volatiles in Extrasolar Giant Planet Exospheres](#). (Invited Talk) NASA Goddard, Maryland.
27. **Oza, A.V.** et al. 2018. [Volcanic Extrasolar Satellite Signatures](#). (Invited Talk) Observatory of Geneva, Switzerland.

26. Galli, A. et al. 2018 including **Oza, A.V.** [Simulating the plasma - ice interaction in the lab for Jupiter's icy moons](#) 20th EGU General Assembly, EGU2018, Proceedings from the conference held 4-13 April, 2018 in Vienna, Austria, p.4802
25. **Apurva V. Oza.** Outgassing Ocean Worlds. (Invited Talk) Indian Space Research Organization (ISRO), PRL, Ahmedabad, India, Jan. 2018.
24. **Oza, A.V.** et al. 2017. [Atmospheric Bulges on Tidally-Locked Satellites.](#) (Talk) American Astronomical Society, DPS meeting 49, id.203.12
23. **Oza, A.V.** et al. 2017. [Rotation-Driven Icy Galilean Satellite Exospheres.](#) (Invited Talk) Center for Space and Habitability. Bern, Switzerland
22. **Oza, A.V.** et al. 2017. Les Bosses Atmospheriques. (Invited Talk) LESIA. Meudon, France.
21. **Oza, A.V.** et al. 2017. [Europa and Ganymede's Water-Product Exospheres.](#) (Poster) European Planetary Science Congress 2017, held 17-22 September, 2017 in Riga Latvia, id. EPSC2017-626
20. **Oza, A.V.** et al. 2017. [Rotation-Driven Icy Galilean Satellite Exospheres.](#) (Talk) Ices in the Solar System. ESA-AC. Madrid, Spain.
19. **Oza, A.V.** et al. 2016. [Directly Detecting Molecular Oxygen Exospheres at Europa and Ganymede.](#) (Poster). Canary Islands Winter School of Astrophysics
18. **Oza, A.V.** et al. 2016. [Origin and Evolution of Europa's Oxygen Exosphere.](#) (Talk). AAS/Division for Planetary Sciences Meeting Abstracts, Vol. 48, 517.05.
17. **Oza, A.V.** et al. 2016. [On the Direct Detection of Water Exospheres at Europa and Ganymede.](#) (Poster). CNES Toulouse, France. 2016
16. Leblanc, F., **Oza, A.V.** et al. 2016. [3D Multispecies Collisional Model of Ganymede's Atmosphere.](#) (Poster). AAS/Division for Planetary Sciences Meeting Abstracts, Vol. 48, 429.09.
15. **Oza, A.V.** et al. 2016 "Development of a Carbon Nanotube Ionizer for Exosphere Exploration." (Poster). Programme Nationale Soleil-Terre. Hendaye, France.
14. **Oza, A.V.** et al. 2016 [Capturing Atmospheres via Nanotechnology and 3D Exosphere Simulations.](#) (Talk). ESEP: Space Instrumentation for planetary exploration. Observatoire de Paris, Meudon, France.
13. **Oza, A.V.** et al. 2015 [Towards a Carbon Nanotube Ionization Source for Planetary Atmosphere Exploration.](#) (Poster). AGU Fall Meeting. San Francisco, California
12. **Oza, A.V.** et al. 2015 "Carbon Nanotube Ionization Source for Planetary Atmosphere Exploration." (Talk). Institut d'Astrophysique de Paris. Paris, France.
11. Schmidt, C. et al. 2015 including **Oza, A.V.** [Plasma Parameters in Io's Torus II: Measurements from Apache Point Observatory.](#) European Planetary Science Congress 2015. Nantes, France.
10. Troup, N. et al. 2015 including **Oza, A.V.** [A Study of Statistical Binaries with SDSS/APOGEE.](#) American Astronomical Society, AAS Meeting 225, id.340.06.
9. **Oza, A.V.** et al. 2014, "Exploration of Planetary Atmospheres : Simulation and Detection." (Talk). Institut d'Astrophysique de Paris. Paris, France.
8. Johnson, R.E., **Oza, A.V.** et al. 2014, [Volatile Loss and Classification of Kuiper Belt Objects.](#) American Astronomical Society, DPS meeting 46, id.510.01.
7. Skemer, A. et al. 2014 incl. **A.V.Oza** [High contrast imaging at the LBT: the LEECH exoplanet imaging survey.](#) Proceedings of the SPIE, Volume 9148, id. 91480L 12 pp. (2014). (SPIE Homepage)
6. Turner, J. et al. 2014 incl. **A.V.Oza** [Plasma Parameters in Io's Torus I: Measurements from Apache Point Observatory.](#) American Geophysical Union, Fall Meeting 2014, abstract P13E-07.
5. Skemer, A. et al. incl. **Oza, A.V.** [LEECH: A 100 Night Exoplanet Imaging Survey at the LBT](#) " Exploring the Formation and Evolution of Planetary Systems, " *Proceedings of the International Astronomical Union*, IAU Symposium, Volume 299, pp. 70-71, January 2014.
4. **Oza, A.V.**, Reichart, D., Trotter, A. [Probing the Circumburst Environment & Jet of GRB 091018A : Modeling the Synchrotron Peak - Cooling Break Cross Over.](#) *American Astronomical*

Society meeting. Austin, TX, January 8-12, 2012.

3. **Oza, A.V.** & Reichart, D. *Afterglow Photometry and Modeling GRB 091018*. American Physical Society, 78th Annual Meeting of the Southeastern Section of the APS; October 19-22, 2011; Roanoke, VA.
2. **Oza, A.V.** et al. *First Detection of Polarization in the North Polar Spur with the NRAO 40 ft. telescope*. Educational Research in Radio Astronomy, July 2010, Green Bank, WV.
1. **Oza, A.** *Exploring the Relationships of Optical Blazar and Quasar Variability Through a Range of Redshifts*. Annual Meeting of the Southeastern Section of the APS, December 2007.

BOOK CHAPTERS AND CIRCULARS

4. L. Roth, C. Plainaki, **A.V. Oza** et al. *Ganymede's Atmosphere* (Chapter 3.4 in "Ganymede"). Editors: Martin Volwerk, Melissa McGrath, Xianzhe Jia, and Tilman Spohn. Cambridge University Press (expected: 2022)
3. A. Galli et al. incl. **A.V. Oza**. *Plasma-surface interactions at Ganymede*. (Chapter 3.3 in "Ganymede"). Editors: Martin Volwerk, Melissa McGrath, Xianzhe Jia, and Tilman Spohn. Cambridge University Press (expected: 2022)
2. **A.V. Oza**. [Exo]Planetary Evolution (Official Course Book). University of Bern (in prep, 2021)
1. Co-author on 55 Gamma-Ray Burst Coordination Network (GCN) Circulars. 2009-2013

POPULAR SCIENCE ARTICLES

6. *Featured: Alien Worlds, NOVA*, in prep
5. *Featured: Scientific American*, March 2021
4. *Featured: [We may have seen signs of an exomoon spewing out volcanic gas](#), New Scientist*, Magazine issue 3246, published 7 September 2019.
3. Oza, A.V. "A Magnetizing Find." *Carolina Scientific* 4.1 (2011): 4-5.
2. Oza, A.V. "An Astronomical Kingdom." *Carolina Scientific* 3.2 (2011): 13-14.
1. Oza, A.V. "A Superbubble Bath." *Carolina Scientific* 2.1 (2009): 32-33.