

# Ioannis Liodakis

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## EDUCATION

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- Defended thesis University of Crete: **Ph.D. in Astrophysics**  
April 2017 Thesis advisor: **V. Pavlidou**, *pavlidou@physics.uoc.gr*,  
• Research internship at Caltech, Marie Curie IRSES program, Apr-Sep 2016.  
• Research internship at Max Planck Institute for Radio Astronomy,  
Erasmus Placement program, Nov 2015 - Feb 2016.
- 2014 University of Patras: **M.Sc. in Physics**  
• *with honors* (Graduated top of class)
- 2012 University of Patras: **B.Sc. in Physics**  
• Research internship at Univ. of Trento, Erasmus Placement program, Mar-May 2011  
• Vis. studentship at Univ. of Amsterdam, Erasmus Exchange program, Feb-Jul 2008

## FELLOWSHIPS & AWARDS

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- Postdoctoral fellowship**, Finnish center for Astronomy with ESO, Turku University  
(*September 2020-*).
- AAS ITG**, TeVPA 2019, Dec 2019
- Short term Mission (Staff exchange)**, RadioNet, Feb 2018
- Best Young Researcher's Award**, University of Crete, *Awarded across all disciplines*, Jul 2017
- Best PhD Thesis Prize**, Hellenic Astronomical Society (Hel.A.S), Mar 2017.
- Postdoctoral fellowship**, Kavli Institute for Particle Astrophysics and Cosmology, Stanford University, 2017-.
- Erasmus Placement Fellowship**, University of Crete, Sep 2015
- Erasmus Placement Fellowship**, University of Patras, Oct 2010
- Erasmus Studies Fellowship**, University of Patras, Sep 2007

## SUCCESSFUL PROPOSALS

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- Funding as PI: **\$65,000**; Total funding: **\$665,000**
- PI**: The Neil Gehrels Swift Observatory, **36 ksec**, Target ID:36386, December 2018;
- PI**: XMM-Newton, **57 ksec**, Proposal ID: 086184
- PI**: "Multiwavelength polarization of blazar jets", EAS 2020 special session
- PI**: XMM-Newton, **30 ksec**, PR#107560, ToO
- PI**: Chandra X-ray Observatory, **20 ksec**, ObsID: 22914, DDT, **\$20,000**
- Co-I**: ALMA, **13.4 hours**, 2019.A.00003.T, DDT
- PI**: KIPAC Innovation grants, **\$25,000**, KIPAC, 2019
- PI**: Nordic Optical Telescope, **0.5 days**, OPTICON 19B/016, id number: P60-104
- PI**: KIPAC workshop, **\$20,000**, Stanford, Aug 2019
- PI**: Skinakas Observatory, **10 days** with the RoboPol instrument, 2019
- PI**: The Neil Gehrels Swift Observatory, **10 ksec**, Target ID:41574, Dec 2018
- Co-I**: QUOKKAS project, **\$600,000**, Samsung, 2018

## EXTENDED INVITED VISITS

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New York University, Sep 2019  
Korea Astronomy and Space Science Institute, Oct 2018  
Max Planck Institute for Radioastronomy, Sep 2018  
University of Hiroshima, Jun 2018  
New York University, Feb 2017  
California Institute of Technology, Apr 2016.

## INVITED TALKS/COLLOQUIA/SEMINARS

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Yale University, Oct 2019  
Stony Brook University, Sep 2019  
Columbia University, Sep 2019  
New York University, Sep 2019  
National Observatory of Athens, Apr 2019  
TAPIR seminar, Caltech, Apr 2019  
Korea Astronomy and Space Science Institute, Oct 2018  
MPIfR, Sep 2018  
Tokyo Institute of Technology, Jun 2018  
University of Hiroshima, Jun 2018  
Stanford University, Oct 2017  
Hellenic Astronomical Society's biannual meeting, Jun 2017  
New York University, Feb 2017  
Purdue University, Aug 2016  
MPIfR, Feb 2016.  
University of Crete, Nov 2015

## TEACHING/OBSERVING EXPERIENCE

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Lecturer, Stanford Splash, Stanford, 2020  
Teaching assistant, University of Crete, Physics laboratory I, 2017  
Teaching assistant, University of Crete, Physics laboratory I, 2016  
Tutor, Skinakas observatory, operation training seminars, 2015-2017  
Teaching assistant, University of Patras, Computational Physics, 2015  
Telescope Operator/Observer, Skinakas Observatory, >90 nights on 1.3 meter telescope.

## UNDERGRADUATE/GRADUATE STUDENT MENTORING

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**Co-Supervisor**, Stanford University, A. L. Peirson (graduate student), 2019, results were published as part of Liidakis et al., (2019, arXiv:1906.01647)  
**Co-Supervisor**, University of Crete, undergraduate thesis of N. Mandarakas (currently a graduate student at University of Crete), 2016-2017, Mandarakas et al. (2018, arXiv:1810.06312)  
**Co-Supervisor**, University of Crete, undergraduate and masters thesis of K. Kokolakis (currently a graduate student at the Technical University of Crete), 2015-2016, results were published as part of Mandarakas et al. (2018, arXiv:1810.06312)  
**Co-Supervisor**, University of Crete, undergraduate thesis of A. Lalakos (currently a graduate student at Northwestern University), 2016  
**Instructor**, Skinakas observatory, telescope operation training seminars, 2015-2017  
**Co-Supervisor**, Skinakas observatory, undergraduate internship program, 2015-2017.

## COLLABORATIONS/ORGANIZATIONS

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**LSST AGN Science Collaboration**, 2019-  
**Imaging X-ray Polarimetry Explorer Collaboration**, 2018 -  
*Fermi* Space telescope Collaboration, 2017 -  
**European Astronomical Society**, 2016 -  
**RoboPol Collaboration**, 2014 -  
**Hellenic Astronomical Society**, 2013 -  
**Amateur Astronomical Society of Patras** , 2005 -, board member (2009-2010).

## INSTITUTIONAL RESPONSIBILITIES/COMMISSIONS OF TRUST

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**Co-organizer**: KIPAC-LSST early science group, 2019-2020  
**PI & Host**: PAVES program, KIPAC, 2019-2020  
**NASA reviewer/panelist**: FINESST, *Fermi* GI program, 2019-2020  
**Postdoc representative**: Postdoctoral mentoring committee, Stanford, 2018-2020  
**Organizer**: Postdoctoral retreat, Stanford, 2019  
**Co-organizer**: Postdoctoral retreat, Stanford, 2018  
**Mentor**: Stanford Undergraduate Research Association, 2018-  
**Telescope proposal reviewer**: Liverpool, GMRT, 2017-  
**Journal reviewer**: APJ, MNRAS, Astrophysics and Space Science, Astronomy and Computing, Galaxies, RMxAA, 2016-  
**Certified operator**: Skinakas observatory, 2015-

## ORGANISATION OF SCIENTIFIC MEETINGS

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**Organizer (chair)**, KIPAC annual postdoc retreat, 25 participants, Pescadero, 2019.  
**Organizer (chair)**, “Understanding blazars through multiwavelength variability”, 40 participants, Stanford University, 2019.  
**Organizing committee**, Hellenic Astronomical Societys biannual meeting, 144 participants, Heraklion, 2017  
**Organizer (chair)**, 6th RoboPol collaboration meeting, 20 participants, Athens, 2016.  
**Organizer (chair)**, 3rd RoboPol collaboration meeting, 20 participants, Heraklion, 2014.  
**Organizing committee**, 5th Hellenic Amateur Astronomy conference, 450 participants, Patras, 2007

## OUTREACH ACTIVITIES

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**Stanford Splash**, Stanford University, lecturer, ages 12-17, 2019  
**KIPAC open house**, citizen science program, ages 4-16, 2019  
**KIPAC open house**, crafting activities ages 4-16, 2017  
**Skinakas Observatory**, high-school guided tours, 2016  
**Skinakas Observatory**, guided tours (20-200 people), 2014-2017  
**Amateur Astronomical Society of Patras**, 5 high school guided tours, 2004-2010  
**Amateur Astronomical Society of Patras**, > 10 public observing nights, 2004-2010  
**Amateur Astronomical Society of Patras**, >10 public lectures, 2004-2010 .

## PROFESSIONAL REFERENCES

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**V. Pavlidou**, University of Crete, [pavlidou@physics.uoc.gr](mailto:pavlidou@physics.uoc.gr)  
**R. Romani**, Stanford University, [rwr@astro.stanford.edu](mailto:rwr@astro.stanford.edu)  
**R. Blandford**, Stanford University, [rdb3@stanford.edu](mailto:rdb3@stanford.edu)  
**A. Readhead**, California Institute of Technology, [acr@astro.caltech.edu](mailto:acr@astro.caltech.edu)  
**I. Papadakis**, University of Crete, [jhep@physics.uoc.gr](mailto:jhep@physics.uoc.gr)

# LIST OF PUBLICATIONS

## SUMMARY OF PUBLICATIONS

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First author refereed publications: **15** (*8 without PhD supervisor, 1 single author*); Co-authored refereed publications with significant contribution: **11**; Refereed publications with mentees: **2**; Total number of refereed publications: **37**; Total number of non-refereed publications: **15**; Astronomers telegrams: **5**; Conference oral/poster contribution **>20**.

## FIRST AUTHOR PUBLICATIONS IN REFEREED JOURNALS

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1. **I. Liodakis**, & M. Petropoulou, “Proton Synchrotron  $\gamma$ -rays and the Energy Crisis in Blazars” 2020, *accepted for publication in APJL*, arXiv:2003.10460.
2. **I. Liodakis**, A. L. Peirson & R. W. Romani, “Prospects for Detecting X-ray Polarization in Blazar Jets” 2019, **APJ**, 880, 29, arXiv:1906.01647.
3. **I. Liodakis**, R. W. Romani, A. V. Filippenko, D. Kocevski & W. Zheng, “Probing Blazar Emission Processes with Optical/Gamma-ray Flare Correlations” 2019, **APJ**, 880, 32, arXiv:1905.11418.
4. **I. Liodakis**, D. Blinov, “Probing the unidentified Fermi blazar-like population using optical polarization and machine learning” 2019, **MNRAS**, 486, 3415-3422, arXiv:1904.04278
5. **I. Liodakis**, T. Hovatta, D. Huppenkothen, S. Kiehlmann, W. Max-Moerbeck, A. C. S. Readhead, “Constraining the limiting brightness temperature and Doppler factors for the largest sample of radio bright blazars” 2018, **APJ**, 866, 137, arXiv:1809.08249
6. **I. Liodakis**, R. Romani, A. Filippenko, S. Kiehlmann, W. Max-Moerbeck, A. C. S. Readhead, W. Zheng, “Multiwavelength cross-correlations and flaring activity in bright blazars” 2018, **MNRAS**, 480, 5517-5528, arXiv:1808.05625
7. **I. Liodakis**, “Toy model for the acceleration of blazar jets” 2018, **A&A**, 616, 7, arXiv:1804.07772
8. **I. Liodakis**, V. Pavlidou, E. Angelakis, N. Marchili, J. A. Zensus, L. Fuhrmann, V. Karamanavis, I. Myserlis, I. Nestoras, E. Palaiologou, I. Papadakis, A. C. S. Readhead, “Scale invariant jets: from blazars to microquasars” 2017, **APJ**, 851, 144, arXiv:1711.03979
9. **I. Liodakis**, A. Zezas, T. Hovatta, E. Angelakis & V. Pavlidou, “Reconciling inverse-Compton Doppler factors with variability Doppler factors in blazar jets” 2016, **A&A**, 602, 8, arXiv:1503.04780.
10. **I. Liodakis**, V. Pavlidou, T. Hovatta, W. Max-Moerbeck, T. J. Pearson, J. L. Richards & A. C. S. Readhead, “Bimodal radio variability in OVRO-40m-monitored blazars” 2016, **MNRAS** 467, 4565-4576, arXiv:1702.05493.
11. **I. Liodakis**, N. Marchili, E. Angelakis, L. Fuhrmann, I. Nestoras, I. Myserlis, V. Karamanavis, T. P. Krichbaum, A. Sievers, H. Ungerechts, & J. A. Zensus, “F-GAMMA: Variability Doppler factors of blazars from multiwavelength monitoring” 2017, **MNRAS** 466, 4625-4632, arXiv:1701.01452.
12. **I. Liodakis**, D. Blinov, I. Papadakis & V. Pavlidou, “Estimating the distribution of rest-frame timescales for blazar jets: a statistical approach ” 2017, **MNRAS**, 465, 4783-4794, arXiv:1511.00434.
13. **I. Liodakis**, V. Pavlidou & E. Angelakis, “Detecting the elusive blazar Counter-jets” 2017, **MNRAS**, 465, 180-191, arXiv:1610.06561.
14. **I. Liodakis** & V. Pavlidou, “Population statistics of beamed sources. II: Evaluation of Doppler factor Estimates” 2015, **MNRAS**, 454, 1767-1777, arXiv:1412.2638.
15. **I. Liodakis** & V. Pavlidou, “Population statistics of beamed sources. I: A new model for blazars” 2015, **MNRAS**, 451, 2434-2446, arXiv:1412.2634.

## CO-AUTHORED PUBLICATIONS IN REFEREED JOURNALS

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1. Hodgson J. A., L’Huillier B., **Liidakis, I.**<sup>\*</sup>, et al., “Using variability and VLBI to measure cosmological distances”, 2020, , *accepted for publication in MNRAS Letters*, arXiv:2003.10278.
2. Ajello, M., et al. (including **Liidakis, I.**<sup>\*</sup>), “The Fourth Catalog of Active Galactic Nuclei Detected by the Fermi Large Area Telescope”, 2020, *accepted for publication in APJS*, arXiv:1905.10771.
3. Abdollahi, S, et al. (including **Liidakis, I.**), “Fermi Large Area Telescope Fourth Source Catalog”, 2020, **APJS**, 247, 33, arXiv:1902.10045.
4. Ajello, M., et al. (including **Liidakis, I.**), “Fermi and Swift Observations of GRB 190114C: Tracing the Evolution of High-energy Emission from Prompt to Afterglow”, 2020, **APJ**, 890, 9, arXiv:1909.10605.
5. Ajello, M., et al. (including **Liidakis, I.**), “Bright Gamma-Ray Flares Observed in GRB 131108A”, 2019, **APJL**, 886, L33, arXiv:1911.04642.
6. Ajello, M., et al. (including **Liidakis, I.**), “A Search for Cosmic-Ray Proton Anisotropy with the Fermi Large Area Telescope ”, 2019, **APJL**, 883, 33.
7. Ramaprakash, A. N. et al. (including **Liidakis, I.**), “RoboPol: a four-channel optical imaging polarimeter”, 2019, **MNRAS**, 485, 2355-2366, arXiv:1902.08367.
8. Ahnen, M. L. et al. (including **Liidakis, I.**), “MAGIC and Fermi-LAT gamma-ray results on unassociated HAWC sources”, 2019, **MNRAS**, 485, 356-366, arXiv:1901.03982.
9. Panopoulou, G. V., Tassis, K., Skalidis, R., Blinov, D., **Liidakis, I.**<sup>\*</sup>, et al., “Demonstration of Magnetic Field Tomography with Starlight Polarization toward a Diffuse Sightline of the ISM”, 2019, **APJ**, 872, 21, arXiv:1809.09804.
10. Mandarakas, N., Blinov, D., **Liidakis, I.**<sup>\*</sup>, et al., “Search for AGN counterparts of unidentified Fermi-LAT sources with optical polarimetry. Demonstration of the technique”, 2019, **A & A**, 623, 8, arXiv:1810.06312.
11. Ackermann, M. et al. (including **Liidakis, I.**), “Unresolved Gamma-Ray Sky through its Angular Power Spectrum”, 2018, **Phys. Rev.**, 121, 24, arXiv:1812.02079.
12. Skalidis, R., Panopoulou, G. V., Tassis, K., Pavlidou, V., Blinov, D., Komis, I. & **Liidakis, I.**<sup>\*</sup>, “Local measurements of the mean interstellar polarization at high Galactic latitudes”, 2018, **A & A**, 616, 12, arXiv:1802.04305.
13. D. Blinov, V. Pavlidou, I. Papadakis, S. Kiehlmann, **I. Liidakis**<sup>\*</sup> et al., “RoboPol: connection between optical polarization plane rotations and gamma-ray flares in blazars”, 2018, **MNRAS**, 474, 1296-1306, arXiv:1710.08922.
14. Uemura, M., Itoh, R., **Liidakis I.**, et al., “Optical polarization variations in the blazar PKS 1749+096”, 2017, **PASJ**, 69, 96, arXiv:1709.02524.
15. Kiehlmann, S., Blinov, D., Pearson, T. J. & **Liidakis, I.**<sup>\*</sup>, “Optical EVPA rotations in blazars: testing a stochastic variability model with RoboPol data”, 2017, **MNRAS**, 472, 3589-3604, arXiv:1708.06777.
16. Raiteri, C. M. et al., (including **Liidakis, I.**), “Synchrotron emission from the blazar PG 1553+113. An analysis of its flux and polarization variability”, 2016, **MNRAS**, 466, 3762-3774, arXiv:1612.07000.

## CO-AUTHORED PUBLICATIONS IN REFEREED JOURNALS - CONTINUED

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17. Angelakis, E., Hovatta, T., Blinov, D., Pavlidou, V., Kiehlmann, S., Myserlis, I., Boettcher, M., Mao, P., Panopoulou, G. V., **Liodakis, I.**\* et al., “RoboPol: The optical polarization of gamma-loud and gamma-quiet blazars”, 2016, *MNRAS*, 493, 3365-3380, arXiv:1609.00640.
18. Hovatta, T. et al., (including **Liodakis, I.**), “Optical polarization of high-energy BL Lac objects”, 2016, *A & A*, 596, A74, arXiv:1608.08440.
19. Blinov, D., Pavlidou, V., Papadakis, I., Kiehlmann, S., **Liodakis I.**\* et al., “RoboPol: do optical polarization rotations occur in all blazars?”, 2016, *MNRAS*, 462, 1775-1785, arXiv:1607.04292.
20. Blinov, D., Pavlidou, V., Papadakis, I., Hovatta, T., Pearson, T. J., **Liodakis, I.**\* et al., “RoboPol: optical polarization plane rotations and flaring activity in blazars” 2016, *MNRAS*, 457, 2252-2262, arXiv:1601.03392.
21. Blinov, D., Pavlidou, V., Papadakis, I., Kiehlmann, S., Panopoulou, G. V., **Liodakis I.**\* et al., “RoboPol: First season optical EVPA rotations in blazars”, 2015, *MNRAS*, 453, 1669-1683, arXiv:1505.07467.
22. Panopoulou, G. V. et al. (including **Liodakis, I.**), “Optical polarization map of the Polaris Flare with RoboPol”, 2015, *MNRAS*, 452, 715-726, arXiv:1503.03054.

\* Denotes publications with significant contribution.

## THE ASTRONOMER’S TELEGRAM

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1. **Liodakis I.**, Hovatta T. , Panopoulou G. V., “Rotation of the optical polarization plane for the blazar OC 457”, 2015, *The Astronomer’s Telegram*, #8254.
2. Blinov D., Einoder E. N., Kokolakis K., **Liodakis I.** , Makrydopoulou E., Panopoulou G. V., “Rotation of the optical polarization plane for the blazar OT 081”, 2015, *The Astronomer’s Telegram*, #7872.
3. Blinov D., Einoder E. N., Kokolakis K., **Liodakis I.**, Makrydopoulou E., Panopoulou G. V., “Ongoing rotations of optical polarization plane in two blazars”, 2015, *The Astronomer’s Telegram*, #7865
4. **Liodakis I.** & Blinov D., “Ongoing rotation of the optical polarization plane for the blazar S4 1749+70”, 2014, *The Astronomer’s Telegram*, #6351
5. Myserlis I., **Liodakis I.**, Panopoulou G. V. & Blinov D., “Ongoing rotation of the optical polarization angle for the blazar GB6J1037+5711”, 2014, *The Astronomer’s Telegram*, # 6261