Neven Caplar

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Work experience

2017 - , Associate Professional Specialist, Princeton University

Group leaders: Dr. Robert Lupton, Dr. James Gunn, Dr. Michael Strauss

Description: Algorithm and data reduction pipeline development for Prime Focus Spectrograph

Education

2013 - 2017, Ph.D., ETH Zurich

Advisor: Dr. Simon J. Lilly, ETH Zurich

Thesis title: Evolution of the AGN population in the Universe

2005 - 2010, MSc, University of Zagreb

Advisor: Dr. Hrvoje Stefancic, Institut Ruder Boskovic

Thesis title: Unification models of dark energy and dark matter

Research

Main topics of my scientific work include time domain astronomy, AGN physics, and methods for analysis of large datasets.

First or corresponding author for papers in peer-reviewed journals

1. 2020, **N. Caplar**, T. Penna, S. Johnson, J. Greene
   Nonstationarity of AGN variability: the only way to go is down!, ApJL, 2020, 889L, 29C
2. 2019, L. Sartori, K. Schawinski, B. Trakhtenbrot, **N. Caplar**, E. Treister, C. Zhang
   A forward modelling approach to AGN variability – method description and early applications, ApJ, 2019, 883, 139S
3. 2019, **N. Caplar**, S. Tacchella
   Stochastic modeling of star-formation histories I: the scatter of the star-forming main sequence, 2019, MNRAS, 487, 3845C
4. 2018, **N. Caplar**, S. Lilly, B. Trakhtenbrot
   AGN evolution from galaxy evolution viewpoint - II, ApJ, 2018, 867, 148C
5. 2017, **N. Caplar**, S. J. Lilly, B. Trakhtenbrot
   Optical variability of AGN in the PTF/iPTF survey, ApJ, 2017, 834, 111C
6. 2016, **N. Caplar**, S. Tacchella, S. Birrer
   Quantitative evaluation of gender bias in astronomy, 2017, NatAs, 1E, 182C
7. 2015, **N. Caplar**, S. J. Lilly, B. Trakhtenbrot
   AGN evolution from a galaxy evolution viewpoint, ApJ, 2015, 811, 148C
8. 2013, **N. Caplar**, H. Stefancic
   Generalized models of unification of dark matter and dark energy, Phys. Rev. D, 2013, 87, 023510

Telescope Proposals

1. 2013, F. Miniati, S. J. Lilly, **N. Caplar**
   The connection between magnetised galactic outflows and high Faraday effect in the circumgalactic environment of intermediate redshift galaxies;
   Awarded 24 hours with VIMOS instrument on VLT
2. 2013, S. J. Lilly, F. Miniati, **N. Caplar**, B. Gaensler, J. Farnes
   Testing the association of magnetized plasma with high redshift galaxies along the line of sight;
   Awarded 5 nights at NTT telescope

Seminar and Conference Presentations

Seminars

2019: Harvard University / MPIA Garching / Laboratoire d'Astrophysique de Marseille

2017: Weizmann Institute of Science / University of Geneva

2016: Caltech / University of Washington / Stanford / University of Maryland

2012: Karl-Franzens University / Jagellonian University

Selection of top 5 conference presentations

2018: New Directions in Optical/Near-IR Spectrographs and Wide-field Imagers, Princeton, USA

2017: Unveiling the Physics Behind Extreme AGN Variability, St. Thomas, USA

2015: Black Hole Accretion and AGN Feedback, Shanghai, PRC

2015: Unveiling the AGN-Galaxy Evolution, Puerto Varas, Chile

2014: Powerful AGN, Port Douglas, Australia

Teaching

Mentor: Summer research program, Princeton University
Summer 2019

Mentor: Junior semester project, Princeton University
Spring 2018

Assistant: Advanced physics lab, Master course in physics, First year, ETH Zurich
Fall 2016

Assistant: Physics for Chemists, Bachelor course in chemistry, Second year, ETH Zurich
Spring 2016, Fall 2015, Spring 2015, Fall 2014, Spring 2013, Fall 2013

Assistant: Physical Cosmology, Master course in physics, First year, University of Zagreb
Spring 2011

Other relevant information

Reviewer for ApJ, MNRAS, Astronomy and Computing, Annals of Applied Statistics, eLife, National Research and Development Agency of Chile

Programming Languages: Python, Wolfram Mathematica, CIAO, Zemax

Experience in working with X-ray, optical and time-domain data

Experience in data reduction, survey calibration, “big data" and machine learning techniques