

Aleksey Generozov

Research Associate

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Education

2012-2018 **PhD, Astronomy**, *Columbia University*, New York, NY, Advisor: Brian Metzger.

2008-2012 **BS Physics**, *University of California, Santa Barbara*, Santa Barbara, CA.

Research Interests

I study gas and stellar dynamics in the vicinity of supermassive black holes (SMBHs) via analytic and numerical methods. Some of the questions my research touches on are:

- How do SMBHs grow and evolve over time?
- What do current radio observations say about the presence of jets/outflows in tidal disruption events?
- What uniquely identifiable high-energy sources (e.g. X-ray binaries) can be produced by collisional stellar dynamics in extreme environments?

Publications

- [7] A generalized Bondi accretion model for the galactic centre
A. Yalinewich, R. Sari, **A. Generozov**, N. Stone, B. Metzger, 2018, [MNRAS](#), 479, 4778
- [6] An overabundance of X-ray binaries in the galactic center from tidal captures
A. Generozov, N.C. Stone, B.D. Metzger, J.P. Ostriker, 2018, [MNRAS](#), 478, 4030
- [5] The delay time distribution of tidal disruption flares
N.C. Stone, **A. Generozov**, E. Vasiliev, B.D. Metzger, 2017, [MNRAS](#), 480, 5060
- [4] The influence of circumnuclear environment on the radio emission from TDE jets
A. Generozov, P. Mimica, B.D. Metzger, N.C. Stone, D. Giannios, and M.A. Aloy, 2017, [MNRAS](#), 464, 2481
- [3] Circumnuclear media of quiescent supermassive black holes
A. Generozov, N.C. Stone and B.D. Metzger, 2015, [MNRAS](#), 453, 775
- [2] Lyman edges in supermassive black hole binaries

A. Generozov and Z. Haiman, 2014, [MNRAS](#), 443, L64

[1] Physical properties of the inner shocks in hot, tilted black hole accretion flows

A. Generozov, O. Blaes, P.C. Fragile, and K.B. Henisey, 2014, [ApJ](#), 780, 81

Talks

Formation of X-ray binaries in the Galactic Center via tidal capture

- CU Boulder CASA/JILA seminar, Aug 2018
- University of Crete, Jun 2018
- MODEST workshop, Jun 2018
- AAS 231, Jan 2018
- UCSC FLASH Seminar, Dec 2017
- UC Berkeley explosive astro seminar, Dec 2017
- MIT brown bag lunch seminar, Nov 2017
- Princeton THUNCH seminar, Nov 2017
- IAS coffee talk, Nov 2017
- CIERA theory seminar, Oct 2017
- Harvard galaxies and cosmology seminar, Sep 2017

Radio emission from TDE jets

- TDE17 workshop, Sep 2017
- MODEST workshop, Sep 2016
- Jerusalem TDE workshop, Nov 2015

Lyman edges in supermassive black hole binaries

- 27th Texas relativistic astrophysics symposium, Dec 2013

Summer schools and workshops

- Nov 2016 ISSI workshop on tidal disruption events (invited participant), Bern, Switzerland.
- Jul 2016 PITP summer school on astrophysical plasmas, Princeton, New Jersey.

Teaching

- Sep 2013 - Instructor for Intro Astronomy Lab, Columbia University.
- May 2015

Outreach

- Sep 2018- Volunteer for PISEC at CU Boulder, *Discussed scientific careers with high school students.*
- Sep 2013- Volunteer for Columbia astronomy outreach, *Roof/lecture volunteer for public*
- May 2018 *outreach nights.*

- Feb 2017 Volunteer for "Kids' Week" at the Intrepid Air and Space Museum, *Showed a demo at this event.*
- Dec 2015 Columbia Astronomy outreach lecture, *"On the Care and Feeding of Black Holes".*
- Nov 2015 Volunteer for Girls Science Day, *Showed physics demos to middle-school aged girls.*
- Apr 2014 Volunteer for Saturday Science Starters, *Showed physics demos to middle-school aged children.*

Academic service

- Nov 2015- Student representative on Columbia graduate admissions committee, *Reviewed*
- Apr 2016 *applications and organized visits for prospective students.*