



KITP Conference: Anticipating the Rising Tide of Tidal Disruption Events: Theory and Observations

(Apr 23-26, 2024)

Coordinators: Kate Alexander, Eric Coughlin, Decker French and Suvi Gezari

Tuesday, Apr 23, 2024

X-ray and radio observations of TDEs, Chair: Kate Alexander (U Arizona)

8:50am	Lars Bildsten (KITP)	Welcome [Video]
9:00am	Muryel Guolo (Johns Hopkins)	A systematic analysis of the X-ray emission in optically selected TDEs [Video][CC]
9:30am	Adelle Goodwin (Curtin U)	Radio emission from tidal disruption events: unveiling a population of prompt outflows launched during the stellar disruption [Video][CC]
10:00am	Jean Somalwar (Caltech)	Discovering Tidal Disruption Events in Radio Surveys [Video][CC]
10:30am		Morning Break
11:00am	Yuhan Yao (UCB)	Sub-relativistic Outflow and Hours-Timescale Episodic Mass Accretion Rate Drops during Super-Eddington Accretion in AT2022lri [Video][CC]
11:30am	Yvette Cendes (Harvard-Smithsonian CfA)	Ubiquitous Delayed Radio Emission in TDEs [Video][CC]
12:00pm	Aprajita Hajela (U Copenhagen)	Unraveling the Complexity of Tidal Disruption Events with Multi-wavelength Observations of ASASSN-15oi [Embargoed]
12:30pm		Lunch Break

Optical/UV emission from TDEs+host galaxies, Chair: Thomas Wevers (STSCI)

2:00pm	Iair Arcavi (Tel Aviv U)	Observations of TDEs and Other Nuclear Transients [Slides][Video]
2:30pm	Erica Hammerstein (Maryland)	Population Studies of Tidal Disruption Events and their Hosts: Understanding Host Galaxy Preferences & the Origin of the UV/Optical Emission [Slides][Video]
3:00pm	Yannis Liodakis (MSFC)	Understanding Tidal Disruption Events through their polarized emission [Slides][Video]
3:30pm		Afternoon Break
4:00pm	Sebastian Gomez (STScI)	The Search for Tidal Disruption Events [Slides][Video][CC]
4:30pm	Megan Masterson (MIT)	A New Population of Mid-Infrared-Selected Tidal Disruption Events [Slides][Video][CC]
5:00pm	Ann Zabludoff (Arizona)	Using Dwarf Post-Starburst Galaxies as Probes of TDEs around Intermediate Mass Black Holes [Video][CC]
5:30pm		SHUTTLE TO BWSCI

Wednesday, Apr 24, 2024

TDE theory: disruption process, stream evolution, Chair: Eric Coughlin (Syracuse)

9:00am	Megha Sharma (Monash)	Partial tidal disruption events: elixir of life [Video][CC]
9:30am	Debojyoti Garain (IIT Kanpur)	Partial tidal disruptions of spinning eccentric white dwarfs by spinning intermediate mass black holes [Video][CC]
10:00am	Pavan Vynatheya (MPA)	Exploring the remains of stars disrupted by stellar black holes [Slides][Video][CC]
10:30am		Morning Break
11:00am	Kyle Kremer (Caltech)	Hydrodynamics of Collisions and Close Encounters between Compact Objects and Stars in Dense Stellar Environments [Video]
11:30am	Ananya Bandopadhyay (Syracuse)	The Peak of the Fallback Rate from Tidal Disruption Events: Dependence on Stellar Type [Slides][Video]
12:00pm	Fulya Kiroglu (Northwestern)	Accretion-induced spin-up of black holes through TDEs in dense star clusters [Slides][Video]
12:30pm		Lunch Break
		Disc Formation and Accretion, Eric Coughlin (Syracuse)
2:00pm	Jane Dai (HKU)	Tidal disruption Events: From Accretion and Outflow to Emission [Slides][Video]
2:30pm	Richard Saxton (ESAC)	What can X-ray selected TDEs tell us about the physics of disruption and accretion? [Video]
3:00pm	Xiaoshan Huang (Caltech)	Pre-peak emission in TDEs [Video]
3:30pm		Afternoon Break
4:00pm	Clement Bonnerot (U Birmingham)	First light from tidal disruption events [Video][CC]
4:30pm	Simona Pacuraru (U Birmingham)	Magnetic field evolution in tidal disruption events [Slides][Video][CC]
5:00pm	Fitz Hu (Monash)	Why do tidal disruption events shine in optical and radio more than X-ray? [Slides][Video][CC]
5:30pm		RECEPTION
6:00pm		SPECIAL EVENTS DINNER
7:30pm		SHUTTLE TO BWSCI

Thursday, Apr 25, 2024

Connecting Theory and Observations/Rates, Chair: Itai Linial (IAS)

9:00am	Sjoert Van Velzen (Leiden Obs.)	Current status of TDE observations: the promise of population studies [Slides][Video][CC]
9:45am	Brian Metzger (Columbia)	Cooling Envelope Model for Tidal Disruption Events [Slides][Video][CC]

10:30am

Morning Break

11:00am Tatsuya Akiba (CU Boulder)

On the Hunt for Rogue Supermassive Black Holes Using Tidal Disruption Events [\[Slides\]](#) [\[Video\]](#) [\[CC\]](#)

11:30am Yihan Wang (UNLV)

Enhanced Tidal Disruption Event Rate in Active Galactic Nuclei [\[Video\]](#) [\[CC\]](#)

12:00pm Grant Weldon (UCLA)

A model for repeated tidal disruption events in supermassive black hole binaries [\[Slides\]](#) [\[Video\]](#) [\[CC\]](#)

12:30pm

Lunch Break

Jets and Outflows, Chair: Eliot Quataert (Princeton)

2:00pm Assaf Horesh (Hebrew U)

Delayed Radio Flares - A New Phenomenon in Tidal Disruption Events [\[Slides\]](#) [\[Video\]](#) [\[CC\]](#)

2:30pm Paz Beniamini (Open U Israel)

Relativistic outflows in tidal disruption events: rates, energetics and implications for

UHECRs [\[Slides\]](#) [\[Video\]](#) [\[CC\]](#)

3:00pm Peter Clark (Portsmouth)

Extreme Coronal Line Emitters: Tidal disruption events in complex environments [\[Slides\]](#) [\[Video\]](#) [\[CC\]](#)

3:30pm

Afternoon Break

4:00pm Collin Christy (U Arizona/Steward Observatory)

Radio Evolution of the Tidal Disruption Event ASASSN-19bt: Evidence for a Highly Off-Axis Relativistic Jet [\[Video\]](#) [\[CC\]](#)

4:30pm Tatsuya Matsumoto (Kyoto U)

Origins of late-time radio emission in TDEs [\[Video\]](#) [\[CC\]](#)

5:00pm Igor Andreoni (Maryland)

A Luminous Relativistic Tidal Disruption Event Identified by the ZTF Optical Survey [\[Video\]](#) [\[CC\]](#)

5:30pm

RECEPTION

6:00pm

SPECIAL EVENTS DINNER

7:30pm

SHUTTLE TO BWSCI

Friday, Apr 26, 2024

Quasi-periodic eruptions, Chair: Brian Metzger (Columbia)

9:00am Eliot Quataert (Princeton)

The Fates of Stars Orbiting too Close to Massive Black Holes [\[Video\]](#) [\[CC\]](#)

9:45am Riccardo Arcodia (MIT)

QPEs and their connection with TDEs: where do we stand? [\[Slides\]](#) [\[Video\]](#) [\[CC\]](#)

10:30am

Morning Break

11:00am Wenbin Lu (UCB)

General Constraints on the Origin of Quasi-Periodic Eruptions [\[Video\]](#) [\[CC\]](#)

11:30am Itai Linial (IAS)

QPEs from Star-Disk Interaction [\[Video\]](#) [\[CC\]](#)

12:00pm Joheen Chakraborty (MIT)

Testing your models with long-term monitoring of QPEs [\[Slides\]](#) [\[Video\]](#) [\[CC\]](#)

12:30pm

Lunch Break

Repeating nuclear transients, ambiguous nuclear transients, other weird things, Chair: Ann Zabludoff (Arizona)

2:00pm Thomas Wevers (STScI)

Repeating nuclear transients: one (not so big) happy family? [\[Video\]](#) [\[CC\]](#)

2:30pm Matt Nicholl (Queen's Belfast)

Have we detected QPEs in a nearby TDE? [\[Video\]](#) [\[CC\]](#)

3:00pm Jason Hinkle (Hawaii)

The Elusive Class of Ambiguous Nuclear Transients: Observational Trends, Physical Interpretations, and

Open Questions [\[Slides\]](#) [\[Video\]](#) [\[CC\]](#)

3:30pm

Afternoon Break

4:00pm Nicholas Earl (UIUC)

AT2020nov: Tidal Disruption Event within a Pre-existing AGN-like Disk [\[Video\]](#) [\[CC\]](#)

4:30pm Denyz Melchor (UCLA)

Repeated tidal disruption events in supermassive black hole binaries [\[Video\]](#) [\[CC\]](#)

5:00pm Alessia Franchini (Zurich)

Can QPEs shed light on TDEs? [\[Slides\]](#) [\[Video\]](#) [\[CC\]](#)

5:30pm **CONFERENCE END SHUTTLE TO BWSCI *Also available to SB Airport and SB Airbus, Goleta location. (See Registration Desk BEFORE FRIDAY to sign up.)**