



34th Pacific Coast Gravity Meeting

Caltech, March 16–17, 2018

Dedicated to Jim Isenberg

Schedule

Friday

8:00 – 8:30	Registration and breakfast	
8:30	Session 1: HEP	Chair: Ashmeet Singh
8:30 – 8:42	Welcome	
8:42 – 8:54	* Nico Salzetta	Spacetime from Unentanglement
8:54 – 9:06	* Pratik Rath	Holography in general spacetimes
9:06 – 9:18	* Gabriel Trevino	How to close the holographic entropy cone
9:18 – 9:30	* Taha Ahmad Malik	A novel definition of entropy and application to black holes.
9:30 – 9:42	* Yousef Izadi	Holographic Dual of Asymptotically Flat Spacetimes
9:42 – 9:54	Aron Wall	The True Meaning of Apparent Horizon Entropy
9:54 – 10:06	* Gökçen Deniz Alici	Entropy in Born-Infeld Gravity

10:06 – 10:18	* Zicao Fu	Bare Quantum Null Energy Condition
10:18 – 10:30	* Julio Parra-Martinez	Anomalies and divergences in (super)gravity
10:30 – 11:00	Coffee break	
11:00	Session 2: Gravitational waves	Chair: Max Isi
11:00 – 11:12	* Gautam Venugopalan	Squeezing the vacuum - optomechanics for precision metrology and cosmology
11:12 – 11:24	Alexandra Macedo	Identifying correlations between LIGO's astronomical range and auxiliary sensors using LASSO regression
11:24 – 11:36	* Ron Tso	Black Hole Spectroscopy with Active Interferometry
11:36 – 11:48	* Kellie Ault-O'Neal	Testing General Relativity Through Gravitational Waves
11:48 – 12:00	* Katie Chamberlain	Testing modified gravity with future gravitational wave detectors
12:00 – 12:12	Preston Jones	Vacuum production of electromagnetic radiation by gravitational waves
12:12 – 12:24	* Nader Inan	A New Approach to Detecting Gravitational Waves via a Charge Separation Effect in Superconductors
12:24 – 14:00	Lunch	
14:00	Session 3: Astrophysics	Chair: Jess McIver
14:00 – 14:12	* Riccardo Barbieri	Black hole spin alignment in binary black hole merger
14:12 – 14:24	Johan Samsing	Formation of Eccentric Black Hole Mergers
14:24 – 14:36	* Matthew Giesler	Low-mass X-ray binaries from black-hole retaining globular clusters
14:36 – 14:48	Chiara Mingarelli	The local nanohertz gravitational-wave landscape from supermassive black hole binaries
14:48 – 15:00	Stephen Taylor	Nanohertz-frequency Gravitational Wave Astrophysics With Pulsar Timing Arrays
15:00 – 15:12	Natalia Tenorio Maia	Radiation reaction of binary systems via EFT: spin effects
15:12 – 15:24	Simon Birrer	Probing spacetime with strong gravitational

15:24 – 15:36	* Baoyi Chen	lensing Deformations of extremal black holes in GR and from stringy interactions
15:36 – 16:00	Coffee break	
16:00	Session 4: GR/HEP	Chair: Davide Gerosa
16:00 – 16:12	Achilleas Porfyriadis	Critical Emission from a High-Spin Black Hole
16:12 – 16:24	Sam Gralla	Critical Behavior of Extremal Black Hole Perturbations. I. Aretakis Instability
16:24 – 16:36	Peter Zimmerman	Critical Behavior of Extremal Black Hole Perturbations. II. Universal Exponents
16:36 – 16:48	* Arun Ravishankar	Critical Behavior of Extremal Black Hole Perturbations. III. Holography?
16:48 – 17:00	* Eric Mefford	Gravitational Constraints on Operators in Spherical CFT_d
17:00 – 17:12	James Hartle	No Boundary Wave Functions of the Universe
17:12 – 17:24	Gary Horowitz	Cosmic Censorship in Anti DeSitter Space
17:24 – 17:36	* Ivan Kolar	Higher-dimensional NUT-like and near-horizon geometries from the Kerr-NUT-(A)dS metrics

Saturday

8:00 – 8:30	Breakfast	
8:30	Session 5: Beyond GR	Chair: Maria Okounkova
8:30 – 8:42	Quentin G Bailey	General Relativity tests in the solar system and beyond
8:42 – 8:54	* Luciano Manfredi	Quasinormal Modes of Modified Gravity Black Holes
8:54 – 9:06	* Ruifeng Dong	Gravitational-wave ringdown echoes from black holes in massive gravity
9:06 – 9:18	* Zachary Mark	A recipe for echoes from exotic compact objects
9:18 – 9:30	Matthew Mewes	Tests of local Lorentz invariance in General

Relativity

9:30 – 9:42	* Noah Harris	Testing for Equivalence Principle Violation with Fission Products
9:42 – 9:54	* Michele Oliosi	Minimal theory of quasidilaton massive gravity
9:54 – 10:06	* Kevin Croker	Cosmological tests of the gravastar hypothesis
10:06 – 10:18	Coleman Dobson	Fuzz Balls and Noncommutative Gravity
10:18 – 10:30	Atsushi Naruko	Extended vector-tensor theory
10:30 – 11:00	Coffee break	
11:00	Session 6: Numerical Relativity Chair: Matthew Giesler	
11:00 – 11:12	* Vijay Varma	Aligned-spin numerical relativity hybrid surrogate model with subdominant modes.
11:12 – 11:24	Davide Gerosa	Modeling black hole kicks with waveform approximants
11:24 – 11:36	* Hyun Lim	Towards simulations of intermediate/extreme mass ratio binaries with numerical relativity
11:36 – 11:48	* Vishal Baibhav	Systematic Errors and Energy Estimates in Binary Black Hole Ringdown
11:48 – 12:00	* Maria Okounkova	On choosing the start time of binary black hole ringdown
12:00 – 12:12	* Samuel Rodriguez	Visualizing the Curvature of Spacetime: Vortex and Tendex Lines of Head-On Merging Binary Black Holes
12:12 – 12:24	Charalampos Markakis	Acoustical & Canonical Fluid Dynamics in Numerical General Relativity
12:24 – 12:36	George Schuhmann	Use of a Density Function to Represent Gravity
12:36 – 14:00	Lunch	
14:00	Session 7: Cosmology Chair: Steve Taylor	
14:00 – 14:12	Arthur Fischer	A Simple Model for the Birth and Death of the Universe
14:12 – 14:24	Rodger Thompson	Analytic Cosmological Parameter Solutions with Beta Functions
14:24 – 14:36	* Taisaku Mori	BRS structure of simple model for the

		cosmological constant
14:36 – 14:48	Tanmoy Paul	Bouncing cosmology from warped extra dimensional scenario.
14:48 – 15:00	* Dipanjan Dey	On The Validity of Cosmic Censorship Conjecture in a Cosmological Scenario
15:00 – 15:12	* Andres Américo Navarro Leon	Non-Abelian S-term dark energy and inflation
15:12 – 15:24	Nikodem Poplawski	Big Bounce and Inflation from Spin and Torsion
15:24 – 15:36	* Ilya Vilensky	Deriving loop quantum cosmology dynamics from diffeomorphism invariance
15:36 – 16:00	Coffee break	
16:00	Session 8: GR/HEP	Chair: Leo Stein
16:00 – 16:10	Student Prize	
16:10 – 16:22	Hongsu Kim	Closed Timelike Curves in Kerr-Newman BH spacetime are gauge artifacts.
16:22 – 16:34	Chia-Hsien Shen	Color-kinematics duality in Classical Radiation
16:34 – 16:46	Christos Tzounis	Ingoing Eddington-Finkelstein Metric of an Evaporating Black Hole
16:46 – 16:58	Shohreh Abdolrahimi	Hawking Radiation Energy and Entropy from a Bianchi-Smerlak Semiclassical Black Hole
16:58 – 17:10	Sujoy Modak	Saying ‘Yes’ to loss of information in black hole evaporation
17:10 – 17:22	Chiara Toldo	Black hole bound states in AdS

Students marked with *.

