

Midwest Relativity Meeting 2019 — Scientific Program

Seidman Center (SCB-1008), Grand Valley State University, Grand Rapids, MI

15 minutes talks with three minutes of questions; (G) = Graduate Student; (U) = Undergraduate

Friday, October 4, 2019

8:00 – 8:45	Arrival and Registration	
8:45 – 9:00	Welcoming Remarks	Frederick Antczak, Dean College of Lib. Arts and Sci.
9:00 – 10:30	Session 1	Chair: Bob Wald (UChicago)
	<i>Numerical binary black hole collisions in dynamical Chern-Simons gravity</i>	Leo Stein (Mississippi)
	<i>Modeling Subgrid MHD Turbulence with Artificial Neural Networks (G)</i>	Shawn Rosofsky (UIUC)
	<i>Magnetic Braking and Damping of Differential Rotation in Massive Stars (G)</i>	Lunan Sun (UIUC)
	<i>Effects of spin on magnetized binary neutron star mergers and jet launching</i>	Milton Ruiz (UIUC)
	<i>Dynamically stable ergostars</i>	Antonios Tsokaros (UIUC)
10:30 – 10:50	Coffee Break	
10:50 – 12:20	Session 2	Chair: Leo Stein (Mississippi)
	<i>Spin Self-Force (G)</i>	Kristian Mackewicz (UChicago)
	<i>EMRI Waveforms: Efficient Self-Force Calculations</i>	Anna Heffernan (Perimeter/Guelph)
	<i>Finite Size Effects On The Self-Force (G)</i>	Klaountia Pasmatsiou (Case Western)
	<i>Dynamical gravitomagnetic tidal response of a rotating, barotropic star (G)</i>	Simon Pekar (Perimeter/Guelph)
	<i>Black hole hairstyle excitations (G)</i>	Pablo Bosch Gomez (Perimeter/Waterloo)
12:20 – 2:10	Lunch (on your own)	
2:10 – 3:25	Session 3	Chair: Timothy Dolch (Hillsdale)
	<i>Generating Physically Realistic Neutron Star Initial Data (U)</i>	Grace Fiacco (RIT) and Trung Ha (Rochester)
	<i>Microgravity Effects in Human Body (U)</i>	Tanmoy Chakraborty (Zhengzhou Univ)
	<i>Solving Time Travel Paradoxes (U)</i>	Jacob Hauser (Pomona)
	<i>Signal Overlays for Evaluating Continuous Gravitational Wave Candidates (U)</i>	Grant Weldon (Michigan)
3:25 – 3:45	Coffee Break	
3:45 – 5:35	Session 4	Chair: Brett Bolen
	<i>Thermodynamics of Lorentzian Taub-NUT spacetimes (G)</i>	Alvaro Ballon Bordo (Perimeter)
	<i>The North American Nanohertz Observatory for Gravitational Waves (NANOGrav) Pulsar Timing Array</i>	Timothy Dolch (Hillsdale)
	<i>Constraining Galaxy Merger Histories in the Local Universe with Pulsar Timing Arrays</i>	Sarah Vigeland (UW Milwaukee)
	<i>AGN: Laboratory for Gravitational Physics</i>	Ashkbiz Danehkar (Michigan)
	<i>Cosmic expansion from spinning black holes (G)</i>	Chi Tian (Case Western)
	<i>Applications of Machine Learning to Grav. Physics (G)</i>	Tim Whittaker (Perimeter/Waterloo)
5:35 – 8:00	Dinner (on your own)	
8:00 – 9:00	Public Lecture: <u>Black Hole Myths and Mysteries</u> (Loosemore Auditorium, DeVos)	Leo Stein (University of Mississippi)

Saturday, October 5, 2019

9:00 – 10:30	Session 5 <i>Environment effects in multi-band detections of black hole binaries (G)</i> <i>Can environment effects spoil detection of stellar-origin massive black hole binaries? (G)</i> <i>Testing exotic cosmology models with future Gravitational Wave siren data (G)</i> <i>The Memory Effect and Infrared Divergences in Quantum Gravity (G)</i> <i>Determination of The Static Scalar and Electromagnetic Self-Force From Conical Singularities (G)</i>	Chair: Sarah Vigeland (UWM) Laura Sberna (Perimeter) Alexandre Toubiana (APC/IAP, Paris) Maxence Corman (Perimeter) Gautam Satishchandran (UChicago) Michael LaHaye (Guelph)
10:30 – 10:50	Coffee Break	
10:50 – 12:20	Session 6 <i>Testing Lorentz violation in the Earth's gravitational field (G)</i> <i>Local and covariant flow relations for OPE coefficients in curved spacetime (G)</i> <i>Lorentz Transformations and Existence in Minkowski Spacetime</i> <i>On the relationship between symmetry of metric and symmetry of matter (G)</i> <i>Spacetime Decomposition Methods for GR (G)</i>	Chair: Shane Larson (CIERA) Zonghao Li (Indiana) Mark Klehfoth (UChicago) Armin Nikkhah Shirazi (Michigan) Fatemeh Bagheri (Texas - Arlington) Soham Mukherjee (Perimeter)
12:20 – 2:10	Lunch (on your own)	
2:10 – 2:30	Coffee Break and Blue Apple Award Ceremony (Best Student Talk)	
2:30 – 4:20	Session 7 <i>Solid state analogs for LQG and string theory</i> <i>General Relativity and the Dirac Equation</i> <i>LISA as a Probe of Stellar Astrophysics</i> <i>Asteroid effects on LISA</i> <i>3+1 Decomposition of General Relativity for a Scalar Field Using Mathematica</i> <i>Meta Relativity</i>	Chair: Ben Holder (GVSU) Stephen Harnish (Bluffton) Thomas Brennan (Ferris State) Shane L. Larson (CIERA/Northwestern) Brett Bolen (GVSU) George E. Hrabovsky (MAST) Rick DeWitt
4:20 – 4:30	Wrap-up and Farewell	