Swami Vivekanandji Chaurasia Résumé

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Personal Profile

I am currently a Postdoc in the Computational High-Energy Astrophysics group of Prof. Stephan Rosswog at the Oskar Klein Centre, Department of Astronomy, Stockholm University (Sweden). My work focuses on the interplay between analytical and numerical relativity and their use to gain deeper insights in the astrophysics of compact objects, cosmology, black hole physics and physics beyond the standard model. I completed my doctoral study in the numerical relativity group of Prof. Bernd Brügmann at the Theoretical Physics Insititue, Jena under the dissertation topic "Neutron Stars in Numerical Relativity".

Education

2016-2020 Doctoral Student - Theoretical Physics Institute, University of Jena

2011-2016 Integrated MSc in Physics - Centre For Excellence In Basic Sciences, Mumbai
CGPA - 8.23

Professional Experience

2020-current Post doc - The Oskar Klein Centre, Stockholm University

2016-2020 Research Assistant-Theoretical Physics Institute, University of Jena

Scholarships/Grants

2020-current "Gravitational Radiation and Electromagnetic Astrophysical Transients (G.R.E.A.T) under Dnr. 2016-06012

2016-2018 DFG Research Training Group 1523/2 "Quantum and Gravitational Fields"

2014 S. N. Bhatt Memorial Excellence Fellowship, ICTS- Bangalore.

2011-2016 INSPIRE Fellowship of the Department of Science and Technology (DST), Government of India

Publications

Journal Articles

- Swami Vivekanandji Chaurasia, Tim Dietrich, Maximiliano Ujevic, Kai Hendriks, Reetika Dudi, Francesco Maria Fabbri, Wolfgang Tichy, and Bernd Brügmann 2020 Gravitational waves and mass ejecta from binary neutron star mergers: Effect of the spin orientation, -
- Tim Dietrich, David Radice, Sebastiano Bernuzzi, Francesco Zappa, Albino Perego, Bernd Brügmann, Swami Vivekanandji Chaurasia, Reetika Dudi, Wolfgang Tichy and Maximiliano Ujevic 2018 CoRe database of binary neutron star merger waveforms, *Class.Quant.Grav. 35 (2018) no.24, 24LT01*
- Swami Vivekanandji Chaurasia, Tim Dietrich, Nathan K. Johnson-McDaniel, Maximiliano Ujevic, Wolfgang Tichy, and Bernd Brügmann 2018 Gravitational waves and mass ejecta from binary neutron star mergers: Effect of large eccentricities, *Phys. Rev. D 98, 104005*

- David Keitel, Xisco Jiménez Forteza, Sascha Husa, Lionel London, Sebastiano Bernuzzi, Enno Harms, Alessandro Nagar, Mark Hannam, Sebastian Khan, Michael Pürrer, Geraint Pratten, and Vivek Chaurasia 2017 The most powerful astrophysical events: gravitational-wave peak luminosity of binary black holes as predicted by numerical relativity, *Phys. Rev. D 96, 024006*

Proceedings without peer-review

- T. Dietrich, S. Bernuzzi, B. Brügmann, S. V. Charausia, R. Dudi, D. Radice, W. Tichy, M. Ujevic, Binary Neutron Star Merger Simulations, in P. Bastian, D. Kranzlmüller, H. Brüchle, M. Brehm (Eds.), High Performance Computing in Science and Engineering - Garching/Munich 2018, ISBN 978-3-9816675-2-3.

Teaching

2018-2019 WS: Machine Learning Lab Sessions (Python); SS: Computational Physics Lab Sessions (C)

2017-2018 WS: General Relativity Exercise Sessions; SS: Computational Physics Lab Sessions (C)

2016-2017 WS: General Relativity Exercise Sessions; SS: Computational Physics Lab Sessions (C)

WS: Winter Semester; SS: Summer Semester

Talks/Workshops

- DPG-München-2019: *Eccentric Binary Neutron Stars In Numerical Relativity,* Munich
- PHAROS meeting-2019, Jena
- SuperMUC Status and Results Workshop-2018: *Numerical relativity simulations of generic neutron star binaries,* Leibniz-Rechenzentrum, Garching, Munich
- *Introduction to Parallel Programming with MPI and OpenMP*-2018, Jülich Supercomputing Centre (Germany)
- *Neutron Stars In Numerical Relativity: Updates from the Jena group*-2018, ICTS-Bangalore
- The Physics of Extreme-Gravity Stars Workshop-2017: *Eccentric Binary Neutron Star Mergers,* Stockholm

Computer Skills

- **Programming Languages:** C, Python, MATLAB, Mathematica, (basic) FORTRAN and C++
- High Performance Computing, Parallel Programming (MPI and Open MP)
- **Visualization Tools:** VisIt (Viz. of eccentric BNS) and ParaView
- **Operating Systems:** Linux, Windows

Interests

- **Cycling, Travelling, Hiking**
- **Music, Reading, Photography**

Referees

Name	Bernd Brügmann	Tim Dietrich	Wolfgang Tichy
Affiliation	University of Jena	Nikhef	Florida Atlantic University
Position	Professor	Marie Curie Fellow	Professor
Contact	bernd.bruegmann@uni-jena.de	diettim@nikhef.nl	wolf@fau.edu