

# List of Publications: Updated August. 2015

## Sudipta Sarkar

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- “Entropy functionals and c-theorems from the second law” (With Srijit Bhattacharjee, Arpan Bhattacharyya, and Aninda Sinha), [arXiv:1508.01658]
- “The holographic entropy increases in quadratic curvature gravity” (With Srijit Bhattacharya and Aron C. Wall), [arXiv:1504.04706].
- “Physical process first law and caustic avoidance for Rindler horizon” (With Srijit Bhattacharya), Phys. Rev. D, **91**, 024024, [arXiv:1412.1287].
- “A generalized second law at linear order for actions that are functions of Lovelock densities” (with Aron C. Wall), Phys. Rev. D, **88**, 044017, [arXiv:1306.1623].
- “Thermodynamics of Local Causal horizons” (with Arif Mohd), Phys. Rev. D, **88**, 024026, [arXiv:1304.2008].
- “The issue of Zeroth law for Killing horizons in Lanczos-Lovelock gravity” (with Swastik Bhattacharya), Phys. Rev. D, **87**, 044023 (2013), [ arXiv:1205.2042].
- “Entropy increase during physical processes for black holes in Lanczos-Lovelock gravity.” (with Sanved Kolekar and T Padmanabhan), Phys. Rev. D, **86**, 021501 (2012), [arXiv:1201.2947].
- “Horizon entropy and higher curvature equations of state” (with Raf Guedens and Ted Jacobson), Phys. Rev. D, **85**, 064017 (2012), [arXiv:1112.6215].
- “Physical process first law and increase of horizon entropy for black holes in Einstein-Gauss-Bonnet gravity.” (with Ayan Chatterjee), Phys. Rev. Lett. **108**, 091301 (2012), [arXiv:1111.3021].
- “The Membrane Paradigm for Gauss-Bonnet gravity” (with Ted Jacobson and Arif Mohd), [arXiv:1107.1260, Accepted for Publication in Phys. Rev. D].
- “The Black Hole Membrane Paradigm in f(R) Gravity” (with Saugata Chatterjee and Maulik Parikh), Class. Quant. Grav. **29**, 035014 (2012), [arXiv:1012.6040].
- “Second Law Violations in Lovelock Gravity” (with Aron C. Wall), Phys. Rev. D, **83**, 124048 (2011), [arXiv: 1011.4988].
- “Beyond the Einstein Equation of State: Wald Entropy and Thermodynamical Gravity” (with Maulik Parikh), [arXiv: 0903.1176].
- “Is gravitational entropy quantized? ” (with Dawood Kothawala and T. Padmanabhan), Phys. Rev. D, **78**, 104018 (2008), [arXiv:0807.1481].
- “Sub-leading contributions to the black hole entropy in the brick wall approach” (with S. Shankaranarayanan and L. Sriramkumar), Phys. Rev. D, **78**, 024003 (2008), [arXiv:0710.2013].
- “Hawking radiation as tunneling for spherically symmetric black holes: A generalized treatment“ (with Dawood Kothawala), Phys. Lett. B. **659**, 683-687,2008, [arXiv:0709.4448].
- “Einstein’s equations as a thermodynamic identity: The cases of stationary axisymmetric horizons and evolving spherically symmetric horizons” (with Dawood Kothawala and T. Padmanabhan), Phys. Lett. B, **652**, 338-342, (2007), [gr-qc/0701002].
- “Thermodynamic route to Field equations in Lanczos-Lovelock Gravity” ( with Aseem Paranjape and T. Padmanabhan), Phys. Rev. D, **74**, 104015 (2006), [hep-th/0607240].
- “Thermodynamics of horizons from a dual quantum system” (with T. Padmanabhan), Entropy, **9**, 100-107 (2007), [gr-qc/0607042].
- “Casimir Effect confronts Cosmological Constant” (with Gaurang Mahajan and T. Padmanabhan), Phys. Lett. B **641**, 6-10, (2006), [astro-ph/0604265].

## List of Publications in Proceedings of conferences: Updated May. 2012

- “Thermodynamic route to field equations in gravity”, AIP Conf. Proc. 1122, 392-395, (2009).  
Prepared for Spanish Relativity Meeting 2008: Physics and Mathematics Conference: C08-09-15.3.
- “Corrections to the Bekenstein-Hawking entropy in the brick wall approach”, PoS BHGRS, 035, (2008).  
Prepared for Workshop on Black Holes in General Relativity and String Theory. 2008.  
Veli Losinj, Croatia.