
Sanjeev S. Seahra

Publication List

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Preprints

- 2015 • Jack Gegenberg, Shohreh Rahmati & **Sanjeev S. Seahra** (2015)
“Infrared modification of gravity from conformal symmetry”
arXiv: 1505.06058 [gr-qc]

Refereed Journal Articles

- 2015 • Syed Moez Hassan, Viqar Husain & **Sanjeev S. Seahra** (2015)
“Polymer inflation”
Physical Review, **D91**, 065006
arXiv: 1409.6218 [astro-ph.CO]
- 2014 • Shohreh Rahmati & **Sanjeev S. Seahra** (2014)
“Frustration of resonant preheating by exotic kinetic terms”
Journal of Cosmology and Astroparticle Physics, **10(2014)**, 045
arXiv: 1406.4691 [astro-ph.CO]
- Jack Gegenberg, Andrew C. Day, Haitao Liu & **Sanjeev S. Seahra** (2014)
“An instability of hyperbolic space under the Yang-Mills flow”
Journal of Mathematical Physics **55**, 042501
arXiv: 1210.0839 [hep-th]
- Andrew C. Day, Iain A. Brown & **Sanjeev S. Seahra** (2014)
“Primordial fluctuations from deformed quantum algebras”
Journal of Cosmology and Astroparticle Physics, **03(2014)**, 005
arXiv: 1311.1059 [astro-ph.CO]
- 2013 • Viqar Husain, **Sanjeev S. Seahra** & Eric J. Webster (2013)
“High energy modifications of blackbody radiation and dimensional reduction”
Physical Review, **D88**, 024014
arXiv: 1305.2814 [hep-th]
- Viqar Husain, Dawood Kothwala & **Sanjeev S. Seahra** (2013)
“Generalized uncertainty principles and quantum field theory”
Physical Review, **D87**, 025014
arXiv: 1208.5761 [hep-th]
- 2012 • **Sanjeev S. Seahra**, Iain A. Brown, Golam Mortuza Hossain & Viqar Husain (2012)
“Primordial polymer perturbations”
Journal of Cosmology and Astroparticle Physics, **10(2012)**, 041
arXiv: 1207.6714 [astro-ph.CO]

Refereed Journal Articles (continued)

- Andreas Kreienbuehl, **Sanjeev S. Seahra** & Viqar Husain (2010)
“Modified general relativity as a model for quantum gravitational collapse”
Classical & Quantum Gravity, **29**, 095008
arXiv: 1011.2381 [gr-qc]
- 2011 • Jack Gegenberg, Haitao Liu, **Sanjeev S. Seahra** & Benjamin K. Tippett (2011)
“Tomimatsu-Sato geometries, holography and quantum gravity”
Classical & Quantum Gravity, **28**, 085004
(selected as one of the “Research highlights of the year 2010/11” by the CQG editorial board)
arXiv: 1010.2803 [hep-th]
- 2010 • Golam Mortuza Hossain, Viqar Husain & **Sanjeev S. Seahra** (2010)
“The propagator in polymer quantum field theory”
Physical Review, **D82**, 024005
arXiv: 1007.5500 [gr-qc]
- **Sanjeev S. Seahra** & Wayne Hu (2010)
“Analytic description of DGP perturbations on all scales”
Physical Review, **D82**, 024005
arXiv: 1007.4242 [astro-ph.CO]
- Golam Mortuza Hossain, Viqar Husain & **Sanjeev S. Seahra** (2010)
“Background independent quantization and the uncertainty principle”
Classical & Quantum Gravity, **27**, 165013
arXiv: 1003.2207 [gr-qc]
- Golam Mortuza Hossain, Viqar Husain & **Sanjeev S. Seahra** (2010)
“Non-singular inflationary universe from polymer matter”
Physical Review, **D81**, 024005
arXiv: 0906.2798 [astro-ph.CO]
- 2009 • **Sanjeev S. Seahra** & Chris Clarkson (2009)
“Gravitational waves in the black string braneworld”
Classical & Quantum Gravity, **26**, 245004
arXiv: 0907.2174 [gr-qc]
- Golam Mortuza Hossain, Viqar Husain & **Sanjeev S. Seahra** (2009)
“Background independent quantization and wave propagation”
Physical Review, **D80**, 044018
arXiv: 0906.4046 [hep-th]
- **Sanjeev S. Seahra** & Christian Böhmer (2009)
“Einstein static universes are unstable in generic $f(R)$ gravity”
Physical Review, **D79**, 064009
arXiv: 0901.0892 [gr-qc]
- 2008 • Viqar Husain & **Sanjeev S. Seahra** (2008)
“Ricci flows, wormholes and critical phenomena”
Classical and Quantum Gravity, **25**, 222002 (fast track communication)
(selected as one of the “Research highlights of the year 2008/09” by the CQG editorial board)
arXiv: 0808.0880 [gr-qc]

Refereed Journal Articles (continued)

- Antonio Cardoso, Kazuya Koyama, **Sanjeev S. Seahra**, & Fabio P. Silva (2008)
“Cosmological perturbations in the DGP braneworld: numeric solution”
Physical Review, **D77**, 083512
arXiv: 0711.2563 [astro-ph]
- 2007 • Antonio Cardoso, Takashi Hiramatsu, Kazuya Koyama & **Sanjeev S. Seahra** (2007)
“Scalar perturbations in braneworld cosmology”
Journal of Cosmology & Astroparticle Physics, **27**, 008
arXiv: 0705.1685 [astro-ph]
- Antonio Cardoso, Kazuya Koyama, Andrew Mennim, **Sanjeev S. Seahra** & David Wands (2007)
“Coupled bulk and brane fields about a de Sitter brane”
Physical Review, **D75**, 084002
arXiv: hep-th/0612202
- Chris Clarkson & **Sanjeev S. Seahra** (2007)
“FAST TRACK COMMUNICATION: A gravitational wave window on extra dimensions”
Classical & Quantum Gravity, **24**, F33-F40
(selected as one of the “Research highlights of the year 2006/07” by the CQG editorial board)
arXiv: astro-ph/0610470
- 2006 • **Sanjeev S. Seahra** (2006)
“Gravitational waves and cosmological braneworlds: a characteristic evolution scheme”
Physical Review, **D74**, 044010
arXiv: hep-th/0602194
- 2005 • **Sanjeev S. Seahra** (2005)
“Metastable massive gravitons from an infinite extra dimension”
International Journal of Modern Physics D, **14**, 2279–2294
(Honourable mention in the 2005 Gravity Research Foundation Essay Competition)
arXiv: hep-th/0505196
- **Sanjeev S. Seahra** (2005)
“Ringing the Randall-Sundrum braneworld: Metastable gravity wave bound states”
Physical Review, **D72**, 066002
arXiv: hep-th/0501175
- **Sanjeev S. Seahra** & Paul S. Wesson (2005)
“The universe as a 5-dimensional black hole”
General Relativity & Gravitation, **37**, 1339–1347
DOI: 10.1007/s10714-005-0118-8
- Chris Clarkson & **Sanjeev S. Seahra** (2005)
“Braneworld resonances”
Classical & Quantum Gravity, **20**, 3653–3687
arXiv: gr-qc/0505145
- **Sanjeev S. Seahra**, Chris Clarkson & Roy Maartens (2005)
“LETTER TO THE EDITOR: Delocalization of brane gravity by a bulk black hole”
Classical & Quantum Gravity, **22**, L91–L101
arXiv: gr-qc/0504023

Refereed Journal Articles (continued)

- **Sanjeev S. Seahra** (2005)
“Naked singularities on the brane”
Physical Review, **D71**, 084020
arXiv: gr-qc/0501018
- 2004 • **Sanjeev S. Seahra**, Chris Clarkson & Roy Maartens (2005)
“Detecting extra dimensions with gravity wave spectroscopy: the black string braneworld”
Physical Review Letters, **94**, 121302
arXiv: gr-qc/0408032
- 2003 • **Sanjeev S. Seahra** (2003)
“Classical confinement of test particles in higher-dimensional models: stability criteria and a new energy condition”
Physical Review, **D68**, 104027
arXiv: gr-qc/0309006
- **Sanjeev S. Seahra** & Paul S. Wesson (2003)
“Universes encircling 5-dimensional black holes”
Journal of Mathematical Physics, **44**, 5664
arXiv: gr-qc/0309006
- **Sanjeev S. Seahra**, Hamid R. Sepangi & Jaime Ponce de Leon (2003)
“Brane classical and quantum cosmology from an effective action”
Physical Review, **D68**, 066009
arXiv: gr-qc/0303115
- **Sanjeev S. Seahra** & Paul S. Wesson (2003)
“Application of the Campbell-Magaard theorem to higher-dimensional physics”
Classical & Quantum Gravity, **20**, 1321
arXiv: gr-qc/0302015
- 2002 • Paul S. Wesson, **Sanjeev S. Seahra** & Hongya Liu (2002)
“A formal approach to Machian general relativity”
International Journal of Modern Physics, **D11**, 1347
DOI: 10.1142/S0218271802002669
- **Sanjeev S. Seahra** (2002)
“The dynamics of test particles & pointlike gyroscopes in the brane-world & other 5D models”
Physical Review, **D65**, 124004
arXiv: gr-qc/0204032
- **Sanjeev S. Seahra** & Paul S. Wesson (2002)
“The structure of the Big Bang from higher-dimensional embeddings”
Classical and Quantum Gravity, **19**, 1139
arXiv: gr-qc/0202010
- 2001 • Paul S. Wesson & **Sanjeev S. Seahra** (2001)
“Images of the big bang”
Astrophysical Journal Letters, **558**, L75
DOI: 10.1086/323607

Refereed Journal Articles (continued)

- **Sanjeev S. Seahra** & Paul S. Wesson (2001)
“Null geodesics in five-dimensional manifolds”
General Relativity & Gravitation, **33**, 1731
arXiv: gr-qc/0105041
- Takao Fukui, **Sanjeev S. Seahra** & Paul S. Wesson (2001)
“Cosmological implications of a non-separable 5D solution of the vacuum Einstein field equations”
Journal of Mathematical Physics, **42**, 5195
arXiv: gr-qc/0105112
- 2000 • Paul S. Wesson, Hongya Liu & **Sanjeev S. Seahra** (2000)
“The big bang as a higher-dimensional shock wave”
Astronomy & Astrophysics, **358**, 425
arXiv: gr-qc/0003012
- **Sanjeev S. Seahra** & W. W. Duley (2000)
“Normal Coordinate Analysis and Vibrational Spectra of Aromatic Carbon Nanostructures”
Astrophysical Journal, **542**, 898
DOI: 10.1086/317017
- 1999 • James M. Overduin, **Sanjeev S. Seahra**, W. W. Duley & Paul S. Wesson (1999)
“Could intergalactic dust obscure a neutrino decay signature?”
Astronomy & Astrophysics, **349**, 317
- W. W. Duley & **Sanjeev S. Seahra** (1999)
“2175 Å and 3.4 Micron Absorption Bands & Carbon Depletion in the Diffuse ISM”
Astrophysical Journal Letters, **522**, L129
DOI: 10.1086/312228
- **Sanjeev S. Seahra** & W. W. Duley (1999)
“Extended Red Emission from Carbon Clusters in Interstellar Clouds”
Astrophysical Journal, **520**, 719
DOI: 10.1086/307470
- 1998 • W. W. Duley & **Sanjeev S. Seahra** (1998)
“Graphite, Polycyclic Aromatic Hydrocarbons, and the 2175 Å Extinction Feature”
Astrophysical Journal, **507**, 874
DOI: 10.1086/306344
- W. W. Duley, A. D. Scott, **Sanjeev S. Seahra** & G. Dadswell (1998)
“Integrated Absorbances in the 3.4 Micron CH_n Band in Hydrogenated Amorphous Carbon”
Astrophysical Journal Letters, **503**, L183
DOI: 10.1086/311548
- 1997 • W. W. Duley, **Sanjeev S. Seahra** & D. A. Williams (1997)
“Luminescence from Hydrogenated Amorphous Carbon & Extended Red Emission from Nebulae”
Astrophysical Journal, **482**, 866
DOI: 10.1086/304171

Conference Papers

- 2010 • Christian G. Boehmer, Lukas Hollenstein, Francisco S. N. Lobo & **Sanjeev S. Seahra** (2010)
“Stability of the Einstein static universe in modified theories of gravity”
Proceedings of the Twelfth Marcel Grossmann Meeting on General Relativity
arXiv: 1001.1266 [gr-qc]
- 2007 • **Sanjeev S. Seahra** (2007)
“Braneworld cosmological perturbations”
Encuentros Relativistas Españoles (Spanish Relativity Meeting) 2007
- 2006 • **Sanjeev S. Seahra** (2006)
“Numeric study of gravitational waves in Randall-Sundrum cosmology”
XLIIth Recontres de Moriond: Contents and Structures of the Universe
- 2001 • T. Fukui, **Sanjeev S. Seahra** & P. S. Wesson (2001)
“A non-separable solution of the vacuum 5D Space-Time-Matter universe”
Tokyo 2002, New trends in theoretical and observational cosmology
Tokyo: Universal Academic Press, pp. 271-272
- 1999 • **Sanjeev S. Seahra**, James M. Overduin, W. W. Duley & Paul S. Wesson (1999)
“A Critical Examination of Sciama’s Heavy Neutrino Hypothesis”
AIP Conference Proceedings, Vol. 493: Montreal, general relativity and relativistic astrophysics
Melville, N.Y.: American Institute of Physics, pp. 219-222

Pedagogical Reviews/Lecture Notes

- 2009 • **Sanjeev S. Seahra** (2009)
“Gravitational waves from braneworld black holes”
Lecture Notes in Physics, **769**, 347–386
Based on invited lectures from the *Fourth Aegean Summer School: Black Holes*, Lesvos, Greece, September 2007
- 2005 • **Sanjeev S. Seahra** (2005)
“An introduction to MAPLE”
Eprint: personal website
- 2004 • **Sanjeev S. Seahra** (2004)
“An introduction to black holes”
Eprint: personal website
- 2002 • **Sanjeev S. Seahra** (2002)
“The classical and quantum mechanics of systems with constraints”
Eprint: personal website
- 2001 • **Sanjeev S. Seahra** (2001)
“Cosmological constant or grey dust?”
Eprint: personal website
- 2000 • **Sanjeev S. Seahra** (2000)
“Path integrals in quantum field theory”
Eprint: personal website
- **Sanjeev S. Seahra** (2000)
“Beyond flat-space Minkowski quantum field theory”
Eprint: personal website

Popular Science Articles

- 2003 • Paul S. Wesson & **Sanjeev S. Seahra** (2003)
"The shape of the Universe"
Phys13 News, Spring 2003, No. 106, pp. 2-6

A handwritten signature in black ink, appearing to read 'Sanjeev S. Seahra', with a long horizontal flourish extending to the right.

Sanjeev S. Seahra
June 8, 2015