

ROTT Carsten

Assistant Professor
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Key Words

Research Area My main research focus is on indirect searches for dark matter, neutrino property measurements, and particle geophysics. I am an experimentalist and member of the IceCube Neutrino Telescope Collaboration, where I lead searches for physics beyond the standard model. My group is developing a novel camera based calibration system and new sensor modules for next generation neutrino detectors.

Education

- 2004 PhD Purdue University
- 1999 MSc Purdue University
- BSc

Experience

- 2013 - now IceCube Beyond Standard Model Working Group Co-Convenor
- 2012 - 2013 IceCube Dark Matter Working Group Co-Convenor
- 2008 – 2009 Elected IceCube Early Career Scientist Representative
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Position

- 2013 - now Assistant Professor at Sungkyunkwan University
- 2009 - 2013 Senior Research Fellow at the Center for Cosmology and Astroparticle Physics (CCAPP) at The Ohio State University
- 2005 – 2008 Postdoctoral Fellow at Pennsylvania State University

Selected Publication

- "Spectrometry of the Earth using Neutrino Oscillations", C. Rott, A. Taketa and D. Bose. Scientific Reports 5, Article number: 15225 (2015) [arXiv:1502.04930 [physics.geoph]]
- "Evidence for High-Energy Extraterrestrial Neutrinos at the IceCube Detector," M. G. Aartsen et al. [IceCube Collaboration] Science 342 (2013) 1242856 [arXiv:1311.5238 [astro-ph.HE]].
- "An absence of neutrinos associated with cosmic-ray acceleration in ray bursts," R. Abbasi et al. [IceCube Collaboration] Nature 484, 351 (2012) [arXiv:1204.4219 [astro-ph.HE]].
- "Observation of High-Energy Astrophysical Neutrinos in Three Yearsof IceCube Data" M. G. Aartsen et al. [IceCube Collaboration] Phys. Rev. Lett. 113, 101101 (2014) [arXiv:1405.5303 [astro-ph.HE]]
- "Superheavy dark matter and IceCube neutrino signals: Bounds ondecaying dark matter" C. Rott, K. Kohri and S. C. Park. Phys. Rev. D 92, no. 2, 023529 (2015) [arXiv:1408.4575 [hep-ph]]
- "New Sensitivity to Solar WIMP Annihilation using Low-EnergyNeutrinos" C. Rott, J. Siegal-Gaskins and J. F. Beacom. Phys. Rev. D 88 (2013) 055005 [arXiv:1208.0827 [astro-ph.HE]].
- "Search for Dark Matter from the Galactic Halo with the IceCubeNeutrino Observatory" R. Abbasi et al. [IceCube Collaboration] Phys. Rev. D 84, 022004 (2011) [arXiv:1101.3349 [astro-ph.HE]]
- "Dark Matter Searches for Monoenergetic Neutrinos Arising fromStopped Meson Decay in the Sun" C. Rott, S. In, J. Kumar and D. Yaylali. JCAP11(2015)039 arXiv:1510.00170 [hep-ph]

Others

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