

Stanford



Jan Rudolph

Senior Research Scientist

Physics

Bio

ACADEMIC APPOINTMENTS

- Sr Res Scientist-Physical, Physics

ADMINISTRATIVE APPOINTMENTS

- Research Scientist, Stanford University, (2019-2023)
- Postdoctoral Research Fellow, Stanford University, (2016-2019)

PROFESSIONAL EDUCATION

- Dr. rer. nat., Leibniz Universität Hannover, Physics (2016)

LINKS

- Google Scholar: <https://scholar.google.com/citations?user=7IjtBCEAAAAAJ&hl=en>
- LinkedIn: <https://www.linkedin.com/in/j-rudolph/>

Research & Scholarship

PROJECTS

- MAGIS-100 - Stanford University

Publications

PUBLICATIONS

- **Atom Interferometry with Floquet Atom Optics.** *Physical review letters*
Wilkason, T., Nantel, M., Rudolph, J., Jiang, Y., Garber, B. E., Swan, H., Carman, S. P., Abe, M., Hogan, J. M.
2022; 129 (18): 183202
- **Matter-wave Atomic Gradiometer Interferometric Sensor (MAGIS-100)** *QUANTUM SCIENCE AND TECHNOLOGY*
Abe, M., Adamson, P., Borceian, M., Bortoletto, D., Bridges, K., Carman, S. P., Chattopadhyay, S., Coleman, J., Curfman, N. M., DeRose, K., Deshpande, T., Dimopoulos, S., Foot, et al
2021; 6 (4)
- **Collective-Mode Enhanced Matter-Wave Optics** *PHYSICAL REVIEW LETTERS*
Deppner, C., Herr, W., Cornelius, M., Stromberger, P., Sternke, T., Grzeschik, C., Grote, A., Rudolph, J., Krutzik, M., Wenzlawski, A., Corgier, R., Charron, E., Guery-Odelin, et al
2021; 127 (10)
- **Large Momentum Transfer Clock Atom Interferometry on the 689 nm Intercombination Line of Strontium** *PHYSICAL REVIEW LETTERS*

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- Rudolph, J., Wilkason, T., Nantel, M., Swan, H., Holland, C. M., Jiang, Y., Garber, B. E., Carman, S. P., Hogan, J. M.
2020; 124 (8): 083604
- **Atomic source selection in space-borne gravitational wave detection** *NEW JOURNAL OF PHYSICS*
Loriani, S., Schlippert, D., Schubert, C., Abend, S., Ahlers, H., Ertmer, W., Rudolph, J., Hogan, J. M., Kasevich, M. A., Rasel, E. M., Gaaloul, N.
2019; 21 (6)
 - **Fast manipulation of Bose-Einstein condensates with an atom chip** *NEW JOURNAL OF PHYSICS*
Corgier, R., Amri, S., Herr, W., Ahlers, H., Rudolph, J., Guery-Odelin, D., Rasel, E. M., Charron, E., Gaaloul, N.
2018; 20
 - **Matter-wave optics with Bose-Einstein condensates in microgravity**
Rudolph, J.
Gottfried Wilhelm Leibniz Universität. Hannover.
2016
 - **A high-flux BEC source for mobile atom interferometers** *NEW JOURNAL OF PHYSICS*
Rudolph, J., Herr, W., Grzeschik, C., Sternke, T., Grote, A., Popp, M., Becker, D., Muentinga, H., Ahlers, H., Peters, A., Laemmerzahl, C., Sengstock, K., Gaaloul, et al
2015; 17
 - **Design of a dual species atom interferometer for space** *EXPERIMENTAL ASTRONOMY*
Schuldt, T., Schubert, C., Krutzik, M., Bote, L., Gaaloul, N., Hartwig, J., Ahlers, H., Herr, W., Posso-Trujillo, K., Rudolph, J., Seidel, S., Wendrich, T., Ertmer, et al
2015; 39 (2): 167–206
 - **STE-QUEST-test of the universality of free fall using cold atom interferometry** *CLASSICAL AND QUANTUM GRAVITY*
Aguilera, D. N., Ahlers, H., Battelier, B., Bawamia, A., Bertoldi, A., Bondarescu, R., Bongs, K., Bouyer, P., Braxmaier, C., Cacciapuoti, L., Chaloner, C., Chwalla, M., Braxmaier, et al
2014; 31 (11)
 - **Interferometry with Bose-Einstein Condensates in Microgravity** *PHYSICAL REVIEW LETTERS*
Muentinga, H., Ahlers, H., Krutzik, M., Wenzlawski, A., Arnold, S., Becker, D., Bongs, K., Dittus, H., Duncker, H., Gaaloul, N., Gherasim, C., Giese, E., Grzeschik, et al
2013; 110 (9): 093602
 - **Degenerate Quantum Gases in Microgravity** *MICROGRAVITY SCIENCE AND TECHNOLOGY*
Rudolph, J., Gaaloul, N., Singh, Y., Ahlers, H., Herr, W., Schulze, T. A., Seidel, S., Rode, C., Schkolnik, V., Ertmer, W., Rasel, E., Muentinga, H., Koenemann, et al
2011; 23 (3): 287–92
 - **iSense: A Portable Ultracold-Atom-Based Gravimeter**
de Angelis, M., Angonin, M. C., Beauvils, Q., Becker, C., Bertoldi, A., Bongs, K., Bourdel, T., Bouyer, P., Boyer, V., Doerscher, S., Duncker, H., Ertmer, W., Fernholz, et al
ELSEVIER SCIENCE BV.2011: 334–36