

Publication record Simon Stellmer

(as of 06/2018)

Publications related to the Th-229 nuclear clock

- **Towards an energy measurement of the internal conversion electron in the de-excitation of the Th-229 isomer**
Simon Stellmer, Yudai Shigekawa, Veronika Rosecker, Georgy A. Kazakov, Yoshitaka Kasamatsu, Yuki Yasuda, Atsushi Shinohara, and Thorsten Schumm
Phys. Rev. C **xx**, xxxxxx (2018) (*accepted*)
- **Attempt to optically excite the nuclear isomer in 229Th**
Simon Stellmer, Georgy Kazakov, Matthias Schreitl, Hendrik Kaser, Michael Kolbe, and Thorsten Schumm
Phys. Rev. A **97**, 062506 (2018)
- **Nuclear resonant scattering experiment with fast time response: new scheme for observation of 229mTh radiative decay**
A. Yoshimi, *et al.*
Phys. Rev. C **97**, 024607 (2018)
- **A laser excitation scheme for Th-229m**
L. von der Wense, B. Seiferle, S. Stellmer, J. Weitenberg, A. Palffy, P. G. Thirolf
Phys. Rev. Lett. **119**, 132503 (2017)
- **Von der Atomuhr zur Kernuhr**
S. Stellmer
Physik Journal, April 2017, pp. 16-17
- **Nubis et nuclei: A study on noise and precision**
K. Ergenzinger, T. Schumm, S. Stellmer
(*eingereicht bei Leonardo Magazine*)
- **Re-evaluation of the Beck *et al.* data to constrain the energy of the Th-229 isomer**
Georgy A. Kazakov, Thorsten Schumm, Simon Stellmer
arXiv: 1702.00749 (2017)
- **Feasibility study of measuring the Th-229 nuclear isomer transition with U-233 doped crystals**
S. Stellmer, M. Schreitl, G. Kazakov, J. H. Sterba, T. Schumm
Phys. Rev. C **94**, 014302 (2016)
- **Towards a measurement of the nuclear clock transition in Th-229**
S. Stellmer, M. Schreitl, G. Kazakov, K. Yoshimura, T. Schumm
J of Physics: Conf. Series **723**, 012059 (2016)

- **Radioluminescence and photoluminescence of Th:CaF₂ crystals**
S. Stellmer, M. Schreitl, T. Schumm
Nature Scientific Reports **5**, 15580 (2015)
- **Prospects for measuring the Th-229 isomer energy using a metallic magnetic microcalorimeter**
G. A. Kazakov, V. Schauer, J. Schweska, S. P. Stellmer, J. H. Sterba, A. Fleischmann, L. Gastaldo, A. Pabinger, C. Enss, T. Schumm
Nucl. Instr. Meth. Phys. Res. **738**, 229 (2014)

Publications related to quantum gases in strontium

- **Reservoir spectroscopy of 5s5p ³P₂ – 5snd ³D_{1,2,3} transitions in strontium**
S. Stellmer, F. Schreck
Phys. Rev. A **90**, 022512 (2014)
- **Quantum degenerate mixtures of strontium and rubidium atoms**
B. Pasquiou, A. Bayerle, S. M. Tzanova, S. Stellmer, J. Szczepkowski, M. Parigger, R. Grimm, F. Schreck
Phys. Rev. A **88**, 023601 (2013)
- **Degenerate quantum gases of strontium**
S. Stellmer, F. Schreck, T. C. Killian
chapter in: Annual Review of Cold Atoms and Molecules (2014), ISBN: 978-981-4590-16-7
- **Laser cooling to quantum degeneracy**
S. Stellmer, B. Pasquiou, R. Grimm, F. Schreck
Phys. Rev. Lett. **110**, 263003 (2013)
- **Production of quantum-degenerate strontium gases**
S. Stellmer, R. Grimm, F. Schreck
Phys. Rev. A **87**, 013611 (2013)
- **Creation of Ultracold Sr₂ Molecules in the Electronic Ground State**
S. Stellmer, B. Pasquiou, R. Grimm, F. Schreck
Phys. Rev. Lett. **109**, 115302 (2012)
- **iSense: A portable ultracold-atom-based gravimeter**
S. Stellmer and the iSense consortium,
Proc. Comp. Science **7**, 334 (2011)
- **Detection and manipulation of nuclear spin states in fermionic strontium**
S. Stellmer, R. Grimm, F. Schreck
Phys. Rev. A **84**, 043611 (2011)
- **Bose-Einstein condensation of ⁸⁶Sr**
S. Stellmer, M. K. Tey, R. Grimm, F. Schreck

Phys. Rev. A **82**, 041602 (2010)

- **Double-degenerate Bose-Fermi mixture of strontium**

M. K. Tey, S. Stellmer, R. Grimm, F. Schreck

Phys. Rev. A **82**, 011608 (2010)

- **Bose-Einstein Condensation of Strontium**

S. Stellmer, M. K. Tey, B. Huang, R. Grimm, F. Schreck

Phys. Rev. Lett. **103**, 200401 (2009)

Publications related to solitons in BEC

- **Collisions of Dark Solitons in Elongated Bose-Einstein Condensates**

S. Stellmer, C. Becker, P. Soltan-Panahi, E.-M. Richter, S. Dörscher, M. Baumert, J. Kronjäger, K. Bongs, K. Sengstock

Phys. Rev. Lett. **101**, 120406 (2008)

- **Oscillations and interactions of dark and dark-bright solitons in Bose-Einstein condensates**

C. Becker, S. Stellmer, P. Soltan-Panahi, E.-M. Richter, S. Dörscher, M. Baumert, J. Kronjäger, K. Bongs, K. Sengstock

Nature Physics **4**, 496 (2008)