

Dynamic cryogenic radiation shield for controlling blackbody radiation shift in optical lattice clocks

Design and construction of an in-vacuum cryogenic radiation shield that enables controlling the BBR shift uncertainty *below* the 10^{-19} level

Novel scheme that enables loading arbitrary atomic sample distributions over more than 5 mm in 1D optical lattices

Author: HASSAN, Youssef S. (National Institute of Standards and Technology; University of Colorado, Boulder)

Co-authors: BELOY, Kyle (National Institute of Standards and Technology); CHEN, Chun-Chia (National Institute of Standards and Technology; University of Colorado, Boulder); GIBBLE, Kurt (Department of Physics, The Pennsylvania State University); SIEGEL, Jacob L. (National Institute of Standards and Technology; University of Colorado, Boulder); GROGAN, Tanner (National Institute of Standards and Technology; University of Colorado, Boulder); HUNT, Benjamin D. (National Institute of Standards and Technology; University of Colorado, Boulder); LUDLOW, Andrew D. (National Institute of Standards and Technology; University of Colorado, Boulder)

Presenter: HASSAN, Youssef S. (National Institute of Standards and Technology; University of Colorado, Boulder)

Track Classification: Molecular, Atomic, Ion and Nuclear Clocks