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Review Paper

Recent Progress of Single-Ion Optical Frequency Standards

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Abstract
Recent progress of single-ion optical frequency standards is reported. Based on clock transitions in single ions trapped and laser-cooled in ion traps, measurements with fractional uncertainties down to the 10^{-18} level have been achieved. Overview of the measurements reported so far is described. New attempts to overcome the limitations of the measurements are also reviewed.

Keywords
Optical frequency standard – Ion trap – Laser cooling – Quantum information