

SE-07-04

Lattice clock as a frequency standard for JST and UTC

Tetsuya Ido*Space-Time Standards Laboratory, NICT, Japan*

Abstract

The recent development of optical clocks inspires the expectation of a wide variety of potential applications. But the results have been still in the realm of proof of principle experiments. However, in recent years, optical lattice clocks have finally achieved a social implementation. At NICT, the optical lattice clock is operated intermittently to build a timescale with its scale interval adjusted to the one second provided by an optical lattice clock. The obtained data is also sent to the International Bureau of Weights and Measures (BIPM), where BIPM adjusts the frequency of UTC with reference to those data in addition to those from Cesium primary standards. I will talk about the details of the optically-steered timescale and also discuss possible redefinition of the SI second which may happen in ten years.
