

# The Operation of the Atomic Fountains

## Developed at VNIIFTRI

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We report on the operation of the caesium fountain primary frequency standard SU-CsFO2 and the group of rubidium frequency standards at the Russian metrological institute of technical physics and radio engineering. We present measurements of their performance in long term frequency stability to be less than  $2 \cdot 10^{-16}$  (Fig 1). The frequency of SU-CsFO2 with total B uncertainty  $2.5 \cdot 10^{-16}$ <sup>1</sup> agreed well with other primary and secondary frequency standards within the uncertainty according to the Circular T data during the last 10 years (Fig 2).

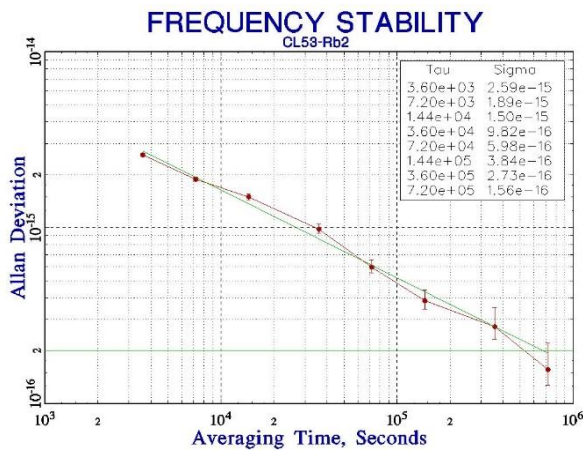


Fig.1 The Allan deviation of SU-RB2 with removed drift of H-maser

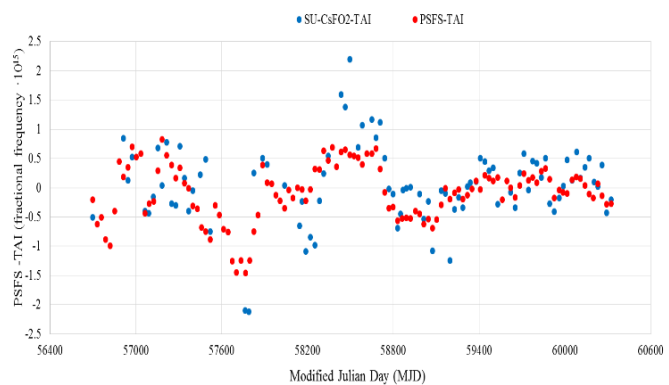


Fig.2 Su-CsFO2 measurements (blue dots) with respect to TAI from February 2014 to January 2024.

<sup>1</sup> Blinov I.Yu., Boiko A.I., Domnin Yu.S., Kostromin V.P., Kupalova O.V., Kupalov D.S. “Budget of uncertainties in the cesium frequency frame of fountain type” Measurement Techniques 2017. T.60 №1 P. 30-36.