

Report to the 20th Session of the CCTF

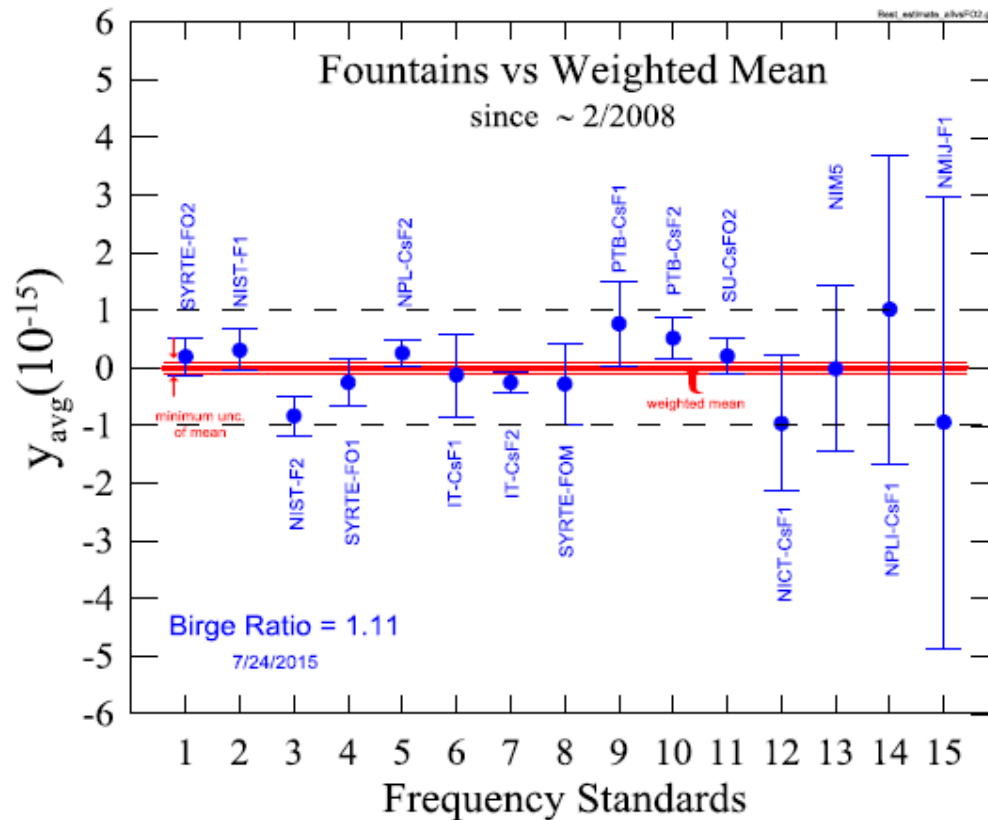
Activities of the Working Group on Primary and Secondary Frequency Standards

from 1 Oct 2012 to 1 Sept 2015.

Steve Jefferts – Chair

Gerard Petit - Secretary

- 5 new Laser-cooled Cs Primary Frequency Standards (PFS) have been recommended for acceptance into TAI
 - 3 of these from NMIs not previously reporting PFS – NPLI (India), NIM(China), and VNIIFTRI (Russia)
 - 2 from previously reporting labs, INRIM (Italy) and NIST (USA).
- 17 (!!) PFS now reporting in into TAI with, generally, >5 available in any given month.
- At the present time the reported (fractional) systematic uncertainties in PFS range from 1.5×10^{-16} to 3.9×10^{-15} , and a statistical analysis seems to indicate that the PFSs are within reasonable statistical agreement. Currently 13 PFS and one secondary standard report to TAI reasonably regularly.
- One development that has occurred over the past several years is that several laboratories have implemented quasi-continuous operation of their fountain PFS. Several other laboratories are pursuing this at the present time



A statistical analysis of the PFS vs. weighted mean of PFS since 2008 indicates good agreement between the standards and their claimed uncertainties.