

## CCL-CCTF WGFS

### PROPOSED RECOMMENDATION CCTF (2017)

Recommended frequency standard values for applications including the practical realisation of the metre and secondary representations of the second

The Consultative Committee for Time and Frequency,

considering that

- a list of Secondary Representations of the Second (SRS) has been maintained following the recommendations of the CIPM,
- different optical SRS have estimated uncertainties of the unperturbed line centre with nearly two orders of magnitude lower uncertainty than the best Cs primary standards,
- improvement in uncertainty associated with optical frequency standards is ongoing,
- the Working Group on Strategic Planning of the CCTF has prepared a roadmap for a future redefinition of the second using optical frequency standards;

recommends that

- the institutes put effort into operating their frequency standards as secondary representations of the second in such a way that they routinely contribute to TAI via reporting to the BIPM,
- the best optical standards be compared with uncertainties that are comparable to the uncertainties of the standards themselves,
- the institutes measure the frequencies of their SRS with the lowest uncertainty with the best primary caesium standards as a necessary requirement for a possible future redefinition of the second in terms of an optical transition,
- formal milestones for a redefinition are identified and the CIPM be informed about the current process.

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