



A comparison of standards for the calibration of stopwatches

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In 2017 the 33rd meeting of the Asia-Pacific Metrology Programme (APMP) Technical Committee on Time and Frequency (TCTF) approved a Technical Committee Initiative to fund a project for the comparison of stopwatches at the lowest level of uncertainty [1]. The National Metrology Institute of Malaysia (NMIM) was appointed as the pilot laboratory.

This comparison was successfully concluded in 2022 but because it was not registered with the CIPM Mutual Recognition Arrangement database, results from the comparison could not be used to formally support the calibration and measurement capabilities of the participants.

In 2023 the National Measurement Standards, National Standardization Agency of Indonesia (SNSU-BSN) proposed an international proficiency test (PT) of stopwatches under the auspices of the APMP-Asia Pacific Accreditation Cooperation (APAC) Joint Proficiency Testing Working Group (PTWG). During discussions with the working group, it became clear that for SNSU-BSN to coordinate the PT they are first required to participate in a registered international stopwatch comparison.

To support SNSU-BSN, the APMP TCTF working group on test and calibration decided to conduct a comparison with three participants, these being the NMIM (piloting the comparison), the National Measurement Institute, Australia (supporting the comparison), and SNSU-BSN. Measurements for this comparison, designated APMP.TF-S1 [2], started in January 2024 and concluded in May 2024. The final report is currently under review by the APMP TCTF and should soon be submitted to the Consultative Committee on Time and Frequency Working Group on the Mutual Recognition Arrangement for comments before approval for publication.

At the conference we will discuss the first supplementary comparison for Time and Frequency in the APMP, covering the calibration methods of each of the participants, the comparison results, and the methodologies used to obtain the results.

1. A. S. Omar, S. Quigg, et al, “Final Report: APMP TCTF Digital Stopwatch Comparison,” <https://apmpweb.org/portal/article/index/cid/25/id/79.html>, last accessed 12 February 2025.

2. APMP.TF-S1, <https://www.bipm.org/kcdb/comparison?id=1922>, last accessed 12 February 2025.