Mass and Related Quantities

The Consultative Committee for Mass and Related Quantities (CCM)

Redefinition of the kilogram

Key comparisons and CMCs

Redefinition of the kilogram

Mass Force Fluid Flow Pressure/Vacuum Density/Viscosity Gravimetry Hardness

Future challenges

Major achievements

- Strategy goals defined, stakeholders identified
- Strongly simplified structure
- Administrative guidance
  - Approval of key comparison final reports
  - Joint strategy document on gravimetry
- Roadmap leading to redefinition
- Draft Mise en pratique
- Traceability to IPK, approval by CCM in 2015
- Pilot study starts end 2015; approval by CCM in 2017

Avogadro constant $N_A$

X-ray crystal density method

Determination of the Planck constant

Planck constant $h$

Watt balance method

Degree of equivalence (CCM.M-K4)

KCs statistics / WGs Total 97

CMCs statistics / WGs Total 2779

Future

challenges

Mass

Density/Viscosity

Pressure/Vacuum

Force

Hardness

Gravimetry

Fluid Flow

Dissemination from the redefined kilogram

Extended traceability ranges of temperature and pressure

Future pressure standard based on optical techniques

Dynamic calibration of force transducers

International definitions of hardness scales

Traceability to the SI

Micro-flow and non-Newtonian liquids

http://www.bipm.org/en/committees/cc/ccm/