Metrologia: Focus on Realization, Maintenance and Dissemination of the Kilogram

Guest Editors: Horst Bettin & Stephan Schlamminger

Editor: Janet Miles
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Papers being published in logical order agreed by the Guest Editors
First papers accepted in May 2016
First 9 papers published together in September 2016 (vol. 53 no. 5)
Available online at:
http://iopscience.iop.org/journal/0026-1394/page/Focus_on_Realization_Maintenance_and_Dissemination_of_the_Kilogram

1 more paper submitted recently - currently under review
3 more expected (on surface studies, the Pilot Study, and the ensemble of masses)
Papers

- **Published:**
  - Foreword
  - Foundation for the redefinition of the kilogram
  - A brief history of the unit of mass: continuity of successive definitions of the kilogram
  - Realization of the kilogram by the XRCD method
  - The watt or Kibble balance: a technique for implementing the new SI definition of the unit of mass
  - Precise determination of the ration $h/m_u$: a way to link microscopic mass to the new kilogram
  - Bridging classical and quantum mechanics

Contd.
Papers (contd.)

- Milligram mass metrology using an electrostatic force balance
- Air-vacuum transfer; establishing traceability to the new kilogram

- **Submitted:**
  - Dissemination of the kilogram at the highest level following its redefinition

- **Expected:**
  - Surface science of mass artefacts
  - Final Report of the Pilot Study
  - The BIPM ensemble of reference mass standards
Summary

- Some of the papers have already been downloaded more than 1000 times.
- **Focus Issue of significant interest!**
- Looking forward to seeing the remaining papers.

- Can include on the web page a list of related papers.
- Propose to produce a printed copy in due course, bringing together the complete set of papers.
Thanks to all who have participated in this project

♦ **Guest Editors:** Horst Bettin, Stephan Schlamminger


♦ **And all the anonymous referees!**