

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

Guest Editors: Horst Bettin  
& Stephan Schlamming

Editor:  
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# Status

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- ◆ **Guest Editors: Horst Bettin, Stephan Schlamminger**
- ◆ 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](http://iopscience.iop.org/journal/0026-1394/page/Focus%20on%20Realization%20Maintenance%20and%20Dissemination%20of%20the%20Kilogram)

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

# Papers

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## ◆ **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 ratio  $h/m_u$ : a way to link microscopic mass to the new kilogram
- Bridging classical and quantum mechanics

Contd.

# Papers (contd.)

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- 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

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- ◆ 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

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- ◆ **And all the anonymous referees!**