102
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Title:Current capabilities at the metrology light source
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Abstract:The Physikalisch-Technische Bundesanstalt (PTB) has set up the 630 MeV electron storage ring Metrology Light Source (MLS) in close cooperation with the Helmholtz-Zentrum Berlin (HZB). This electron storage ring has been in regular user operation since April 2008. It is dedicated to synchrotron-radiation-based metrology and technological developments in the far-IR/THz, IR, UV, VUV and EUV spectral ranges, with the use as primary source standard as the key activity. In a permanent process of improvement, the storage ring itself was optimized regarding its regular performance (beam current and lifetime) as well as for special operations (e.g. variable electron energies and electron bunch lengths). The measurement capabilities at the seven different beamline ports were set up sequentially, first in the UV/VUV and IR spectral ranges. This first phase of instrumentation set-up will be finished in 2011 by completing the beamlines for EUV metrology, for the calibration of radiation sources and for the application of undulator radiation.
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Inspec controlled terms:calibration - light sources - measurement systems - optimisation - particle beam bunching - particle beam diagnostics - storage rings - synchrotron radiation - undulator radiation
Uncontrolled terms:radiation source calibration - EUV metrology - IR spectral range - UV-VUV spectral range - beamline ports - measurement capability - storage ring - permanent process - technological development - synchrotron-radiation-based metrology - electron storage ring - Helmholtz-Zentrum Berlin - Pliysikaliscli-Technische Bundesanstalt - metrology light source
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Treatment:Practical (PRA)
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