EUROMET PROJECT
FINAL REPORT

1. Ref. No.: 579	2. Subject Field: Acoustics, Ultrasound and Vibration
3 Type of collaboration: Comparison	
4A. Partners: BEV, CEA/CESTA,CEM, CMI, IGMC-CNR, CSIC-IA, DPLA, GBARL, GUM, INETI, METAS, NMI, VSL, PTB, SIRA, SP, UME	4B. CEC funded? No
5. Participating countries: AT, FR, ES, CZ, IT, DK, HU, PL, PT, CH, NL, DE, UK, SE, TR	
6. Title: European comparison in accelerometer calibration EUROMET.AUV.V-K1	

7. Progress:

Project has been completed. A brief description of the project phases, based on the abstract of the Final Report, follows.

The first key comparison (KC) in the Regional Metrology Organization (RMO) EUROMET in the area of "vibration" (EUROMET.AUV.V-K1, Project Ref.-No. 579) was carried out from July 2003 to March 2005, piloted by the PTB. The objective was to link 11 European countries, which had not participated in the CIPM KC, to the key comparison reference values (KCRVs) established in the CIPM KC CCAUV.V-K1. The linking of the RMO KC to the CIPM KC was based on the "weighted mean method" using the results of three laboratories that had participated in both KCs. To measure the charge sensitivity of two transfer standards (accelerometers) at six specified frequencies in the range from 40 Hz to 5 kHz, ten laboratories used laser interferometry (ISO 16063-11) and four laboratories used comparison with a reference transducer (ISO 16063-21) traceable to PTB (EUROMET project ref. No. 198 providing traceability). The degrees of equivalence were computed for all calibration results of the RMO laboratories regarding (i) the KCRV, (ii) the other RMO laboratories' results, and (iii) the results of the 12 laboratories which had participated in the CIPM KC. In all cases the deviation Di relative to the KCRV is smaller than the relative expanded uncertainty Ui ($k = 2$) of this difference, $Di < Ui$ .The deviations Dij between the laboratories are in nearly 99 % of all cases smaller than the relative expanded uncertainty Uij ($k = 2$) of these differences. None of the calibration results (40 Hz to 5 kHz) exceeds a relative deviation of 1 % from the KCRV, and only a few results deviate by more than 0.5 % from the KCRV.

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9. Completion date:	10. Coordinator´s signature:	11. Date:
September 2006	Bruns	**2007/12/27**