

ANNUAL REPORT

of Chairperson of TC 1.5 “Length and Angle”

for 2010

Much organizational work was done in the reporting period. All COOMET projects were updated including the completed projects already published in the KCDB.

Special attention was given to the analysis of comparison projects carried out within COOMET, being the basic activity of the TC.

There is a long list of comparisons of national measurement standards. They are given below.

Completed projects

No.	Project ID	Project name
1	460/SK/09	Comparison of 24-sided polygon
2	382/RU/07	International comparisons of national measurement standards for deviations from linearity and flatness; the measurement range for deviations from linearity is 0 to 50 μm , the surface length is 0.4 to 5 m
3	314/UA/04	Comparison of measurement standards for involute surface
4	265/UA/02	Conducting of comparisons of highest accuracy interferometers for gauge blocks measurements (100 mm)
5	266/BY/02	Comparisons of national measurement standards for the unit of plane angle – degree
6	181/RU-a/99	Comparison of inner diameter gauges (reference rings)

Agreed (on-going) comparison projects

No.	Project ID	Project name
1	390/BY/07	International comparison of length standards in the range measurement of gauge blocks (up to 100 mm)
2	332/RU/05	Comparisons of the external diameter (plug gauges) standards
3	315/UA/04	Metrological measurement assurance of the coating thickness and films up to 10 μm
6	278/UA-a/03	Conducting of comparisons of line scales comparators
7	277/UA-a/03	Conducting of comparisons of highest accuracy interferometers for gauge blocks measurements (up to 1 m)
8	450/UA/09	Comparisons of reference instruments of unit are length for parameters of a roughness
9	440/RU/08	International comparison of stabilized He-Ne/I ₂ lasers at 633 nm

Proposed projects

No.	Project ID	Project name
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1	501/Ua/10	Comparison of measurement standards of flatness of optical surfaces
2	443/RU/08	Comparisons of national standards in the area of measuring surface density of coatings within the range of (0.001-1.000) kg/m ² and coating thickness within the range of (1-100) μm
3	370/RU/06	Interlaboratory comparison of length standards in the nanometer range

Regarding the completed projects:

460/SK/09 “Comparison of 24-sided polygon” (from Slovakia). The report is being prepared to be registered in the KCDB. The project was not registered at the proper time, and the comparison results cannot be submitted for international review.

382/RU/07 “International comparisons of national measurement standards for deviations from linearity and flatness; the measurement range for deviations from linearity is 0 to 50 μm, the surface length is 0.4 to 5 m”. The project was completed; the final report was published in the KCDB. The CMC of this comparison are under intra-regional review.

314/UA/03 “Comparison of measurement standards for involute surface”. The project was completed; the final report was published in the KCDB. The participants of the comparison prepare CMC for publication.

265/UA/02 “Conducting of comparisons of highest accuracy interferometers for gauge blocks measurements (100 mm)”. The project was completed; the final report is being translated into English and prepared for publication in the KCDB.

It should be noted that in order to reach the final purpose, i.e. the publication in the KCDB, a project should from the very beginning be registered not only in COOMET but also in the KCDB. To register a comparison project in the KCDB one should address the Chairperson of TC 1.5 with the relevant request and fill in the application form received in reply to this request.

To monitor the comparison process each comparison stage should be recorded through filling in the relevant positions in the above mentioned application form and sending these data to the Chairperson of TC 1.5.

TC did not receive any final reports on the following completed projects:

266/BY/02 “Comparisons of national measurement standards for the unit of plane angle – degree”.

181/RU-a/99 “Comparison of inner diameter gauges (reference rings)”.

332/RU/05 “Comparisons of the external diameter (plug gauges) standards” (no draft B report; no final report).

Regarding the on-going projects:

390/BY/07 “International comparison of length standards in the range measurement of gauge blocks (up to 100 mm)”. The pilot organization BelGIM has not distributed the comparison report to the participating countries for approval yet.

315/UA/04 “Metrological measurement assurance of the coating thickness and films up to 10 μm”. It is recommended to exclude this project as it has lost its topicality and the registered project **443/RU/08** “Comparisons of national standards in the area of measuring surface density of coatings within the range of

(0.001-1.000) kg/m² and coating thickness within the range of (1-100) μm” has a wider range.

277/UA-a/03 “Conducting of comparisons of highest accuracy interferometers for gauge blocks measurements (up to 1 m)”. The activities have been suspended due to technical malfunctions with the measurement standard of KazInMetr.

278/UA-a/03 “Conducting of comparisons of line scales comparators”. The project was prolonged since RGP “KazInMetr” expressed his wish to participate in the comparisons. Measurements are being made at present.

TC 1.5 prepared a list of proposed comparison projects. They are as follows:

370/RU/06 “Interlaboratory comparison of length standards in the nanometer range”. The pilot organization is NIICPV (Russia). NSC “Institute of Metrology” (Ukraine, Kharkov) have confirmed its participation in this comparison. The pilot organization should finalize the registration of the project as agreed.

443/RU/08 “Comparisons of national standards in the area of measuring surface density of coatings within the range of (0.001-1.000) kg/m² and coating thickness within the range of (1-100) μm”. The project is at the stage of registration of comparisons.

501/UA/10 “Comparison of measurement standards of flatness of optical surfaces”. BelGIM (Republic of Belarus, Minsk) confirmed its consent to participate in the project. Actions are being made to register this project as agreed. The participation of two countries is being discussed. A technical protocol has been drafted.

In its activities TC 1.5 came across a problem regarding the analysis of CMC from different NMIs. Uncertainty budgets and further uncertainty calculations are not adequately described in comparison reports. Therefore it is advisable to conduct training workshops and prepare specialists in drawing up of comparison results. Such workshops are provided for within the COOMET activity.

TC proposes holding the next meeting in September 2011 at NICPV, Moscow, Russian Federation.