

**Workshop of SIB58 Angles – Angle Metrology  
28 October 2015, Madrid / Spain  
“Current state of the art in Angle Metrology”**

**Location**

Centro Español de Metrología (CEM)  
Alfar 2 – Tres Cantos  
28760 Madrid (España)

**Contact:**

Emilio Prieto  
Direct Phone: (+34) 91 8074 716  
e-mail: [eprieto@cem.minetur.es](mailto:eprieto@cem.minetur.es)

Workshop is open to universities, companies, metrology labs and industry.

**Workshop Programme**

**09:00 – 09:15**

Opening Remarks and Introduction  
**Tanfer Yandayan (TUBITAK)**

**09:15 – 10:00**

On the Metrology for Ultra-precise Synchrotron Optics – current state and upcoming challenges  
**Frank Siewert (HZB)**

**10:00 – 10:15**

Autocollimators: From past to today  
**Carsten Schlewitt (MWO)**

**10:15 – 10:40**

Use of autocollimators under challenging measuring conditions  
**Ralf D. Geckeler (PTB)**

**10:40 – 11:00 (Break)**

**11:00- 11:20**

Autocollimator Centering Device (ACenD) for application of autocollimators in profilometers  
**Carsten Schlewitt (MWO)**

**11:20- 11:35**

From plane to spatial angles: PTB's Spatial Angle Autocollimator Calibrator  
**Ralf D. Geckeler (PTB)**

**11:35-11:50**

Interferometric device for 2D calibration of autocollimators  
**Antti Lassila (MIKES/VTT)**

**11:50-12:10**

Shearing-based simultaneous calibration of an autocollimator and an encoder

**Ralf D. Geckeler (PTB)**

**12:10-12:30**

Use of shearing method for simultaneous calibration of an autocollimator & a Small Angle Generator (SAG) and investigation of error sources

**Tanfer Yandayan (TUBITAK)**

**12:30 – 14:00 (Lunch)**

**14:00-14:20**

Rotary Tables - Angle Encoders as primary standard, important issues and Rotary Encoder Standard (RES) of INRIM

**Marco Pisani (INRIM)**

**14:20-14:35**

In situ self-calibration of angle encoders with multiple reading heads

**Ralf D. Geckeler (PTB)**

**14:35-14:55**

Important issues in angle encoder calibration and developed coupling tools

**Emilio Prieto (CEM)**

**14:55-15:10**

Investigations of alignment effects during angle encoder calibration

**Salgado José Antonio (LNE)**

**15:10-15:40**

Precise Large Range Small Angle Generation

**Aitor Olarra (IK4-TEKNIKER)**

**15:40-15:50**

Closing Remarks

**Tanfer Yandayan (TUBITAK)**

## Information on the EURAMET TC-L meeting 2015

### Location

Centro Español de Metrología (CEM)  
 Alfar 2 – Tres Cantos  
 28760 Madrid (España)

### Contact:

Emilio Prieto  
 Direct Phone: (+34) 91 8074 716  
 e-mail: [eprieto@cem.minetur.es](mailto:eprieto@cem.minetur.es)

### Dates & Schedule

	<b>Monday 26.10.2015</b>	<b>Tuesday 27.10.15</b>	<b>Wednesday 28.10.15</b>
09:00	EURAMET TC-L	EURAMET TC-L	SIB58 Workshop
10:00	EURAMET TC-L	EURAMET TC-L	SIB58 Workshop
11:00	EURAMET TC-L	EURAMET TC-L	SIB58 Workshop
12:00	EURAMET TC-L	EURAMET TC-L	SIB58 Workshop
13:00	Lunch	Lunch	Lunch
14:00	EURAMET TC-L	TC-L Workshop	SIB58 Workshop
15:00	EURAMET TC-L	TC-L Workshop	SIB58 Workshop
16:00	EURAMET TC-L	TC-L Workshop	SIB58 Workshop
17:00	EURAMET TC-L	TC-L Workshop	
18:00			
19:00			
20:00			
21:00	TC-L Dinner		
22:00	TC-L Dinner		
23:00			