

# NEC'2019



Contribution ID: 214

Type: **Sectional**

## **Nano-metrology of macroscopic systems: Laser metrology laboratory, Precision laser inclinometer, Interferometric Length Gauge, data collection method and their presentation. Development perspectives**

*Thursday, 3 October 2019 15:00 (15 minutes)*

The Precision Laser Inclinometer (PLI) represents new type of sensor that is able to measure the slope of a surface in an angular interval of angles (from 0.01 to 100  $\mu\text{rad}$ ) and in a frequency range of (10  $\mu\text{Hz}$  1 Hz). The principal feature of the new inclinometer is the precision that can reach by last estimates  $5 \cdot 10^{-9}$  rad. The inclinometer is essentially a new kind of a two-coordinate angular seismograph for surface waves with the ability to determine the direction of the wave.

Interferometric Length Gauge allows you to measure the distance between two strings of two string reference lines. Expected as accuracy of about 10 microns per length 16m with a possible variation of air temperature  $\pm 1$  0 C.

Here the data from these instruments will be described, the problems associated with this data, the ways of their processing and presentation.

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**Session Classification:** Triggering, Data Acquisition, Control Systems

**Track Classification:** Triggering, Data Acquisition, Control Systems