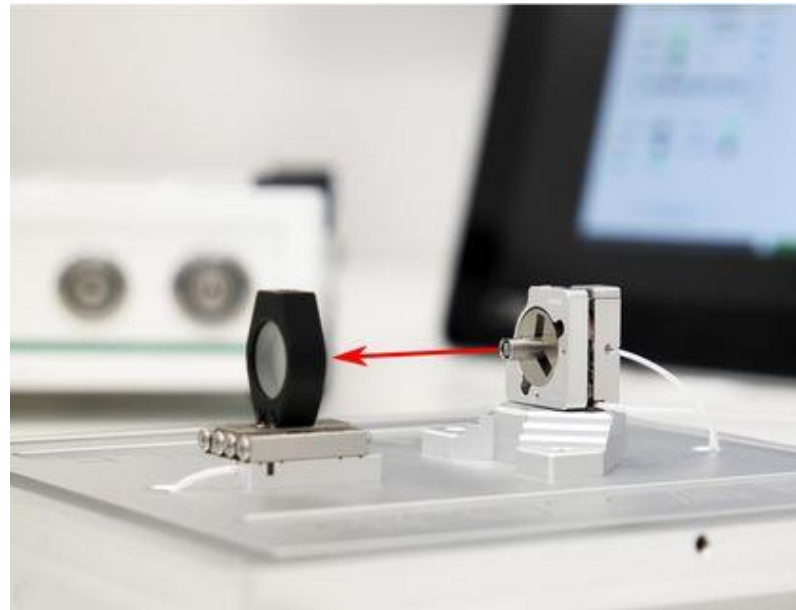
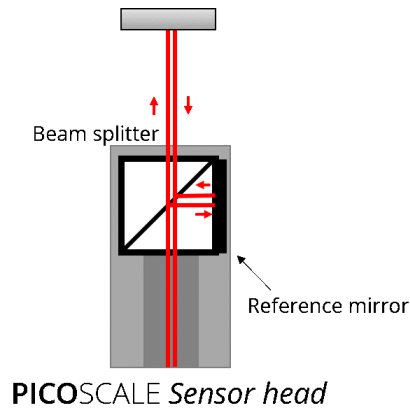




1st EPS TIG Hands-on Event for Science, Technology and Interfaces

Session 2 Project

Build a modern interferometer to measure the shift along the X, Y and Z axis of a piezo stack.



Working groups

List of the groups:

- ⊙ A) Communication and coordination
- ⊙ B) Opto-mechanics hardware
- ⊙ C) Electrical hardware
- ⊙ D) Interferometer software
- ⊙ E) Data Analysis



Problems



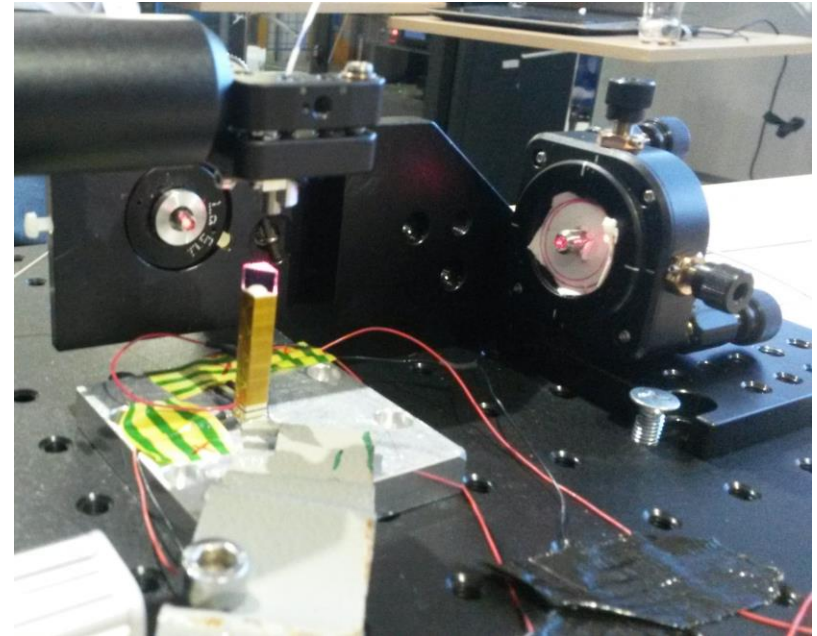
- ◎ Prism shape \Rightarrow two channels are highly correlated \Rightarrow difficult calibration
- ◎ Drift compensation during acquisition
- ◎ Alignment of the lasers and the faces of the piezo-stack

Final Acquisition

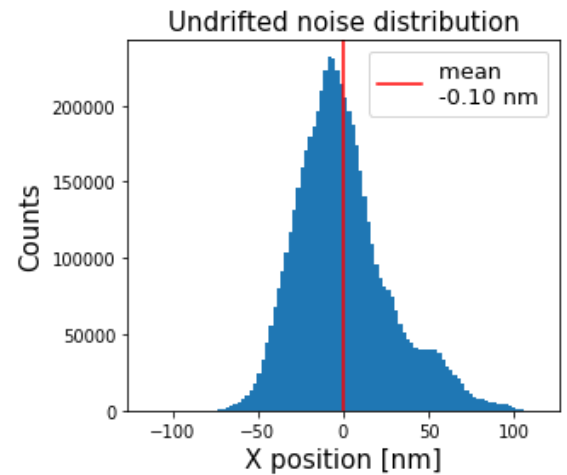
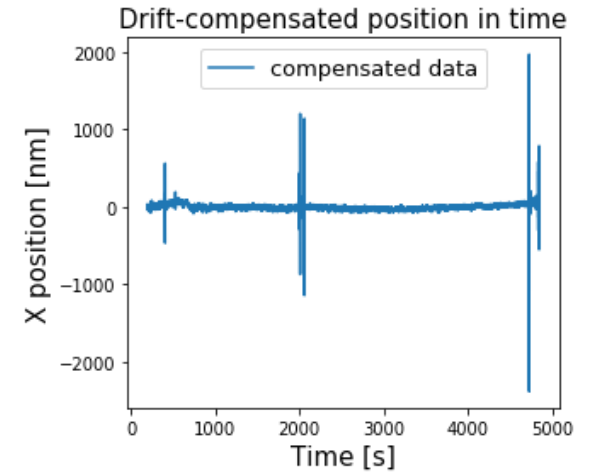
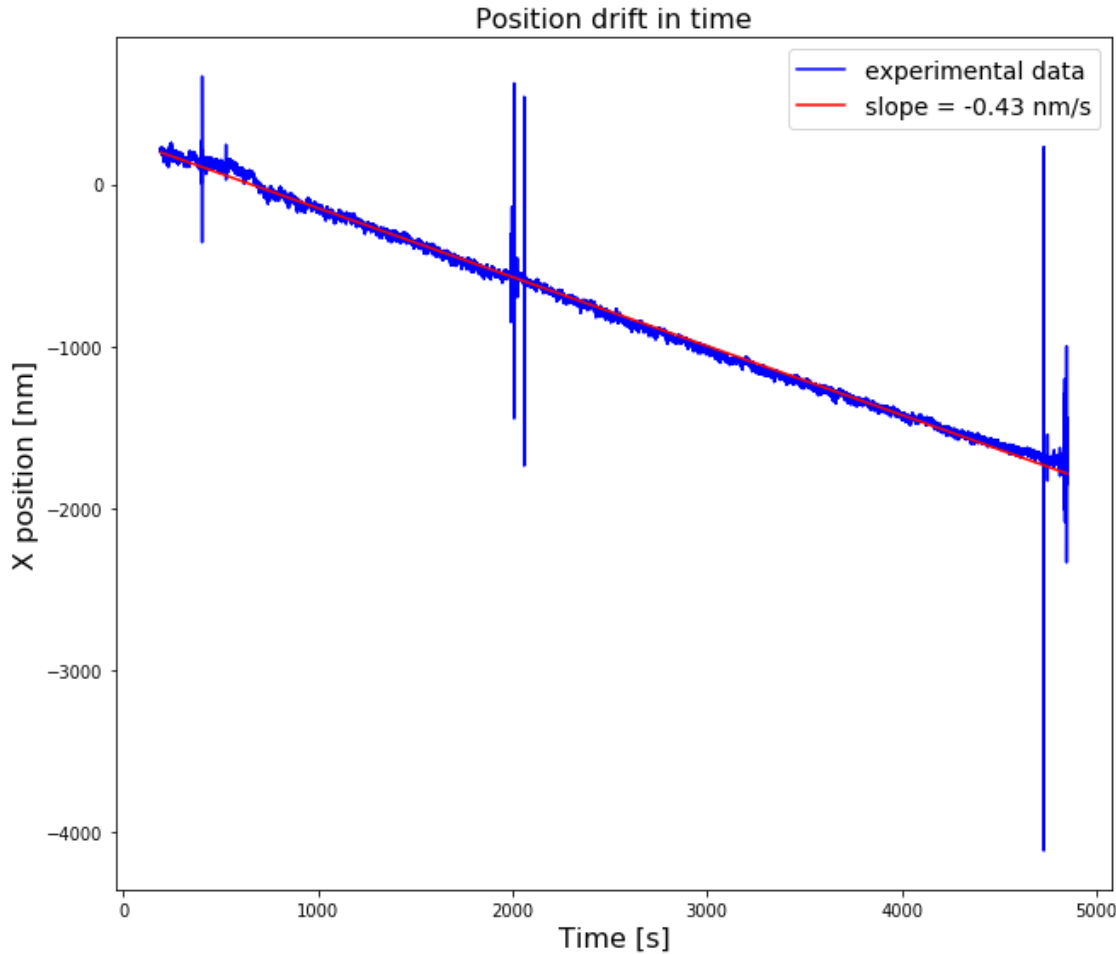
- ◎ Acquisition only from one channel (Z axis)

Acquisitions:

- ◎ Drift signal
- ◎ Piezo displacement changing the tension



Results: Drift Measure



Results: Piezo-stack behaviour

