IMMS

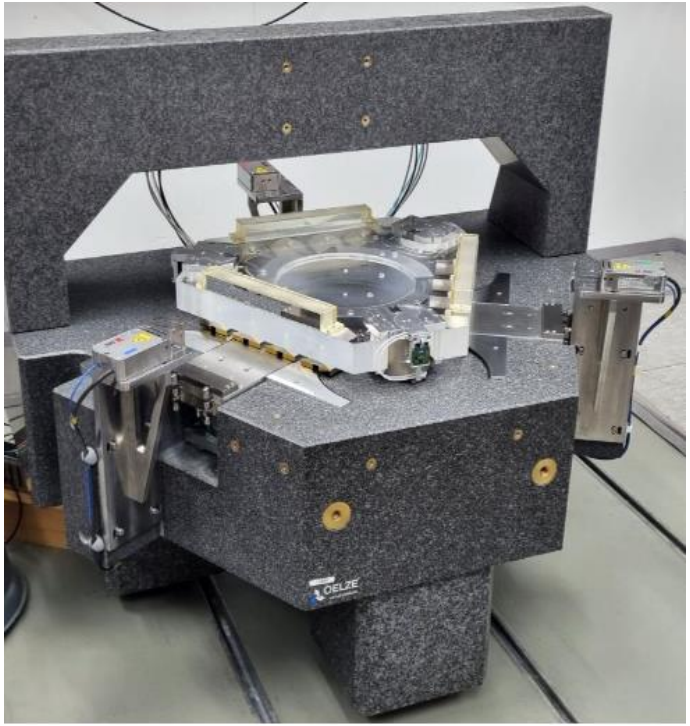
Institut für Mikroelektronik- und Mechatronik-Systeme gemeinnützige GmbH

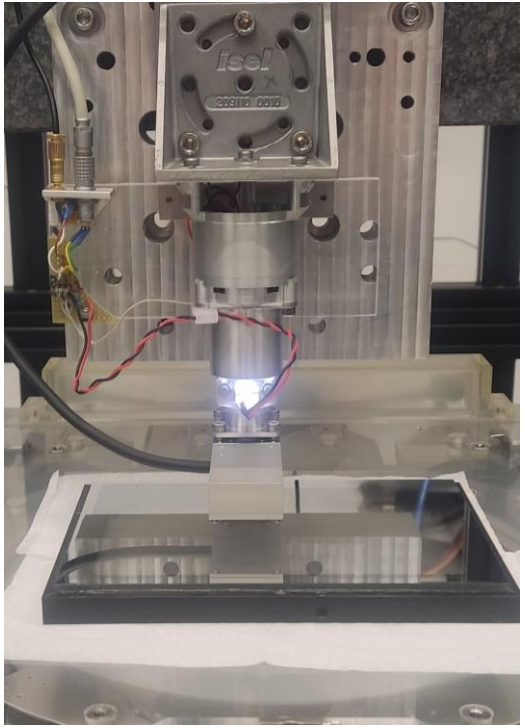
# Unconventional, lateral measurements with laser focus sensor for nanopositioning stages

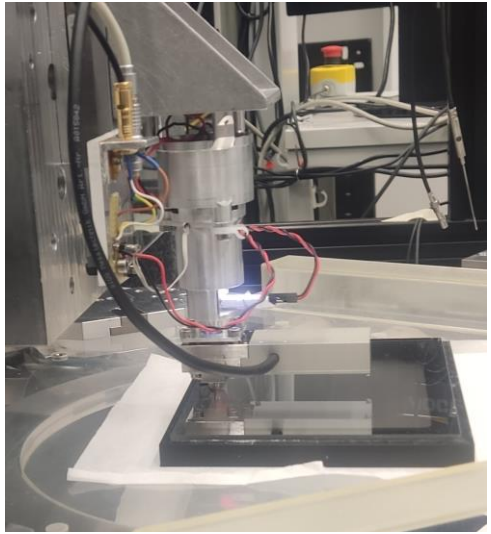
Ilmenau, 29.11.2023

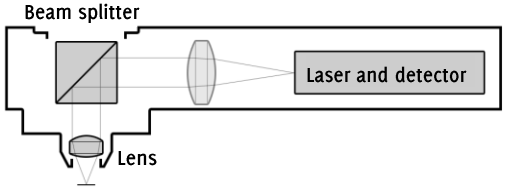
Davi Anders Brasil

# Laser focus sensor + 6DOF nanopositioning machine











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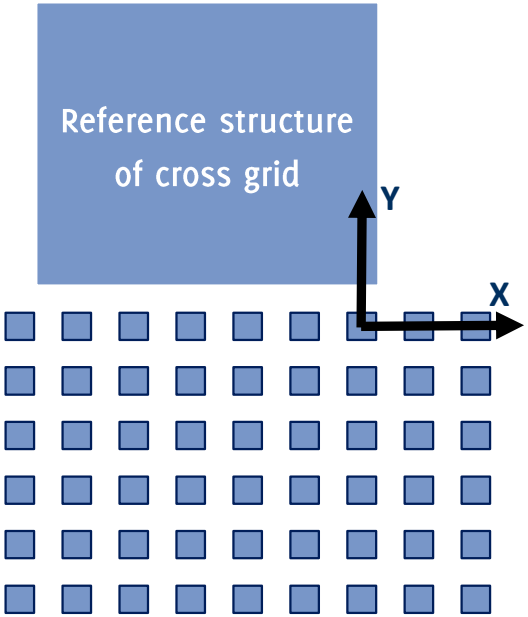
# Unconventional measurements – lateral

- Cross grid (chromium and glass)




- Focus detection

- Length measurements

Non compensated results – system as it is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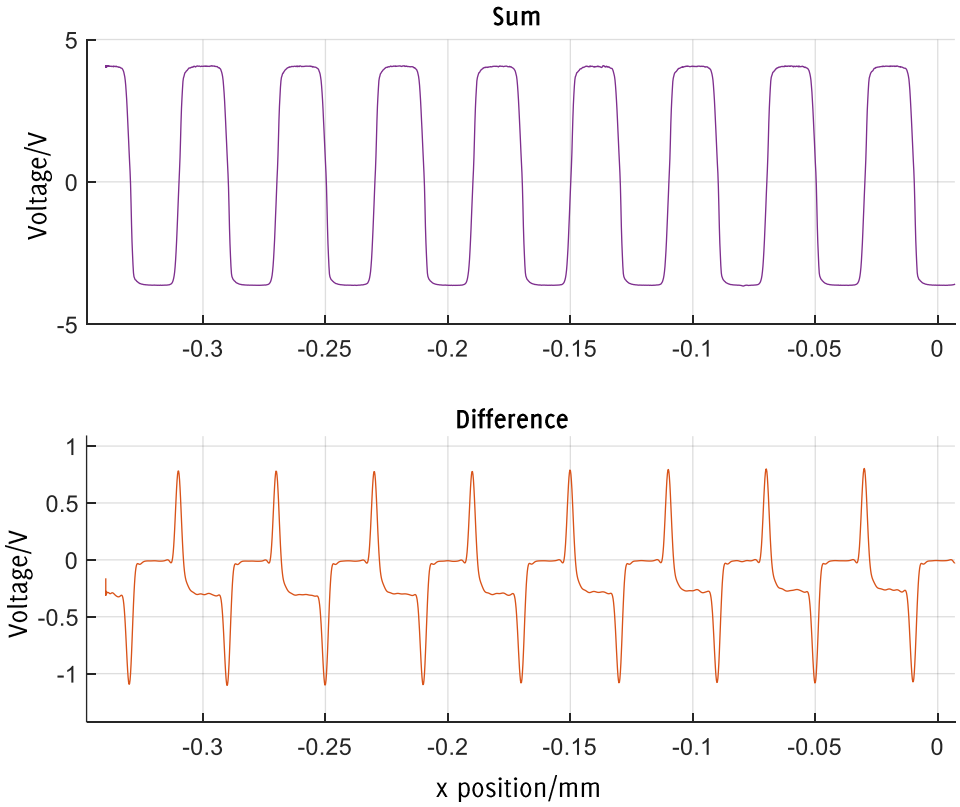
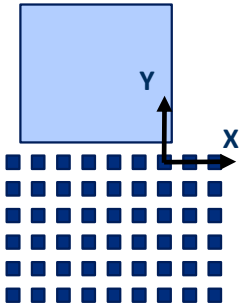
# Laser focus sensor signals – lateral measurements



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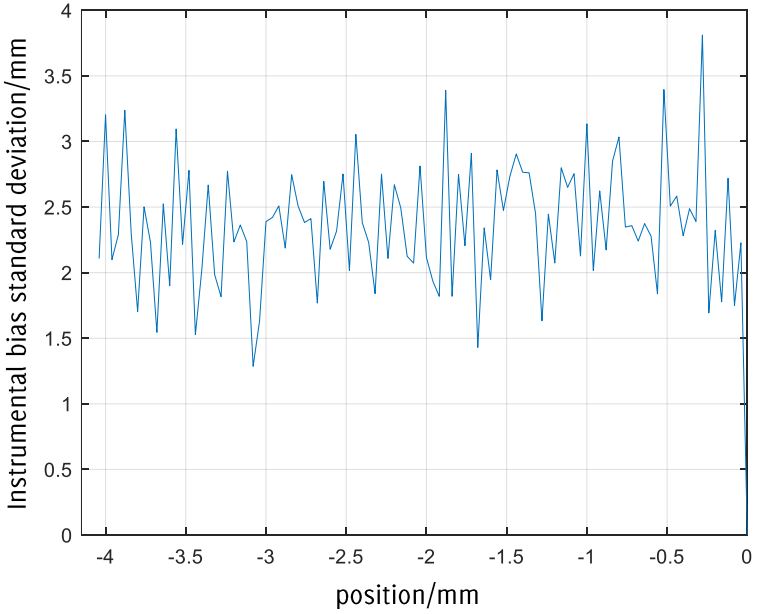
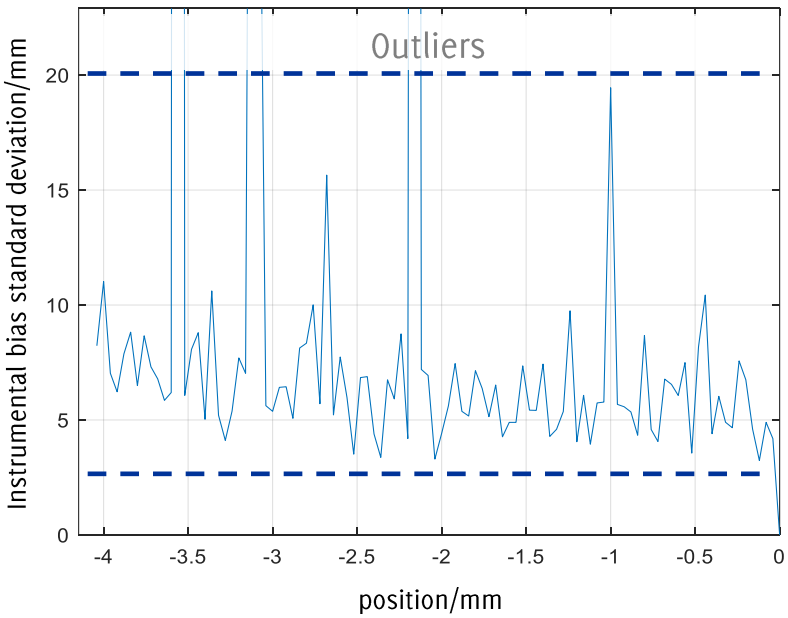
# Standard deviation of the measurements in short and long term – 4mm range – worst case

- Good results (without compensation)
  - SD measurements of measurements in the same day (less than 4 nm)
  - SD measurements of measurements in different day (less than 20 nm)





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# An den nächsten Ideen für die Zukunft möchten wir gern gemeinsam mit Ihnen arbeiten!

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