

Geometric and dynamic metrology at **IWF** Institut für Werkzeugmaschinen und Fertigung Institute of Machine Tools and Manufacturing

Measurement of error motions of production machines

Motivation

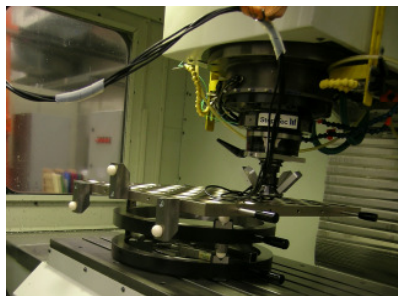
- Development towards high speed production machines, higher accuracy and towards miniaturisation of products
- Standard methods for testing and calibrating demand a lot of time
- Measurement uncertainty is unsatisfying high

Objectives and Challenges

- Compensation of the detected errors in the NC



- Detection of as many errors of the production machine as possible in preferably few set ups



- Small measurement uncertainty



- Reduction of costs and time

Application

- R – Test
 $U(k=2) < 2.8 \mu\text{m}$
- 4 – point – probe
 $U(k=2) < 2.6 \mu\text{m}$
- 3- D ball plate
 $U(k=2) < 4 \mu\text{m}$
- KGM plus
 $U(k=2) < 5 \mu\text{m}$

Industry / Research

- Production machine manufacturers
- Control manufacturers

Contact & Partners

- Prof. K. Wegener (D-MAVT)