

# 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

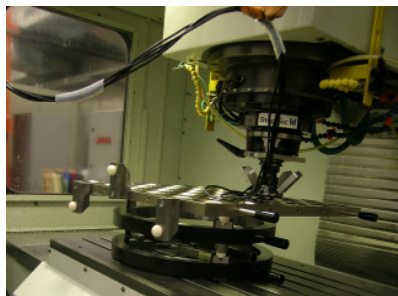
- Development towards high speed production machines, higher accuracy and towards miniaturisation of products
- Standard methods for testing and calibrating demand a lot of time
- Measurement uncertainty is unsatisfying high

### 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)