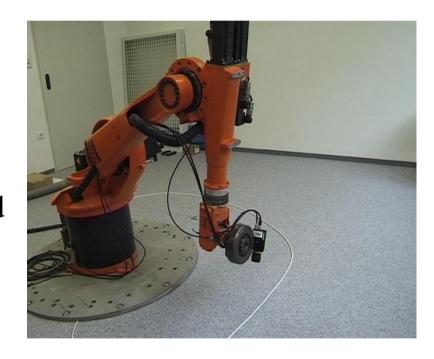
Calibration and Synchronization of a Robot-Mounted Camera for Fast Sensor-Based Robot Motion

Friedrich Lange and Gerd Hirzinger Deutsches Zentrum für Luft- und Raumfahrt e. V. (DLR), Germany

- Identification of the camera parameters (including lens distortion)
- Estimation of the time-shift between camera and robot,
- Compensation of errors in the scale and the orientation of the camera
- Identification of the relevant parameters using the application task
- The resulting tracking error is 0.3 mm (0.5 pixels) when moving at 0.7 m/s



The task: Online refinement of the robot path so that the cable remains in the image center