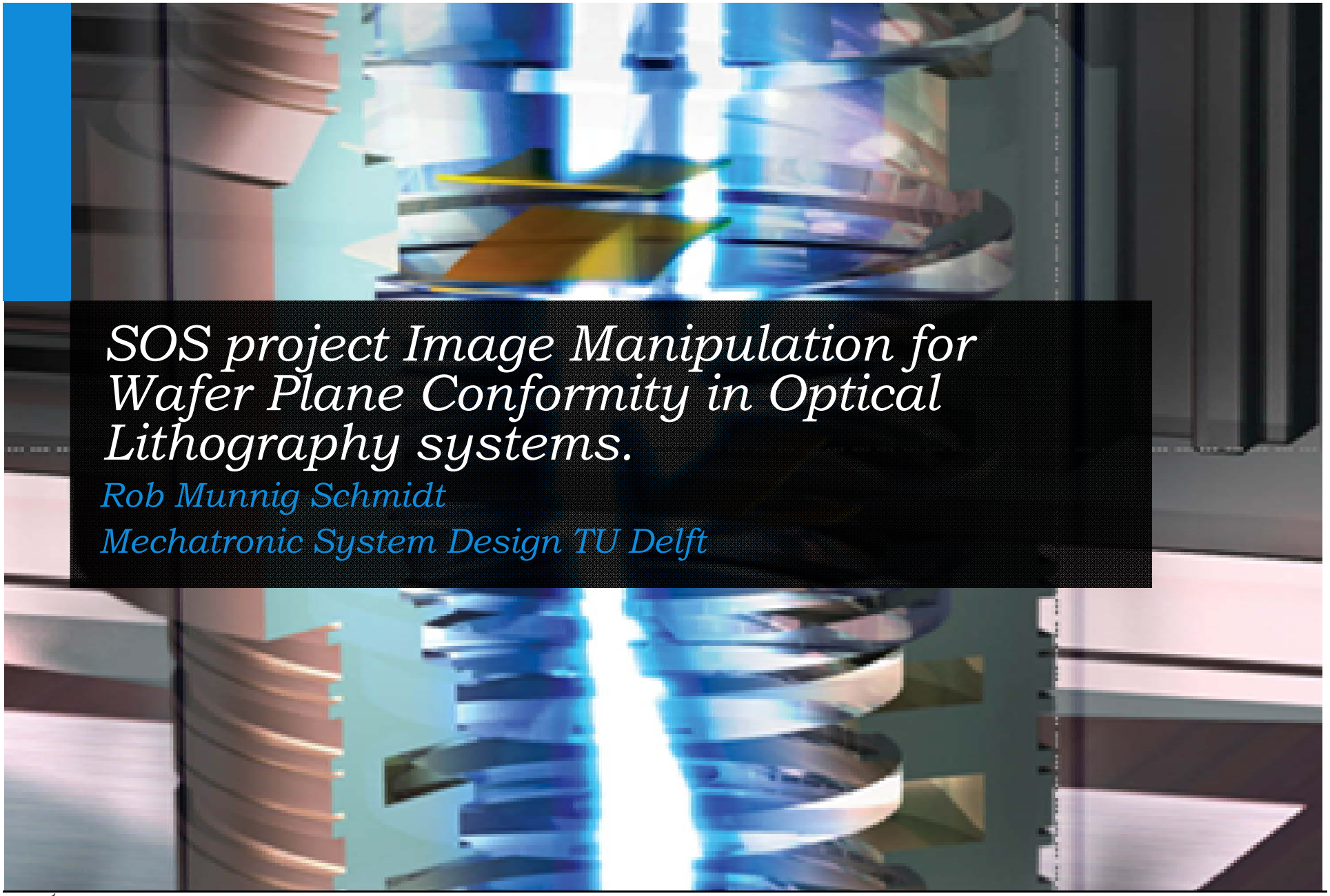


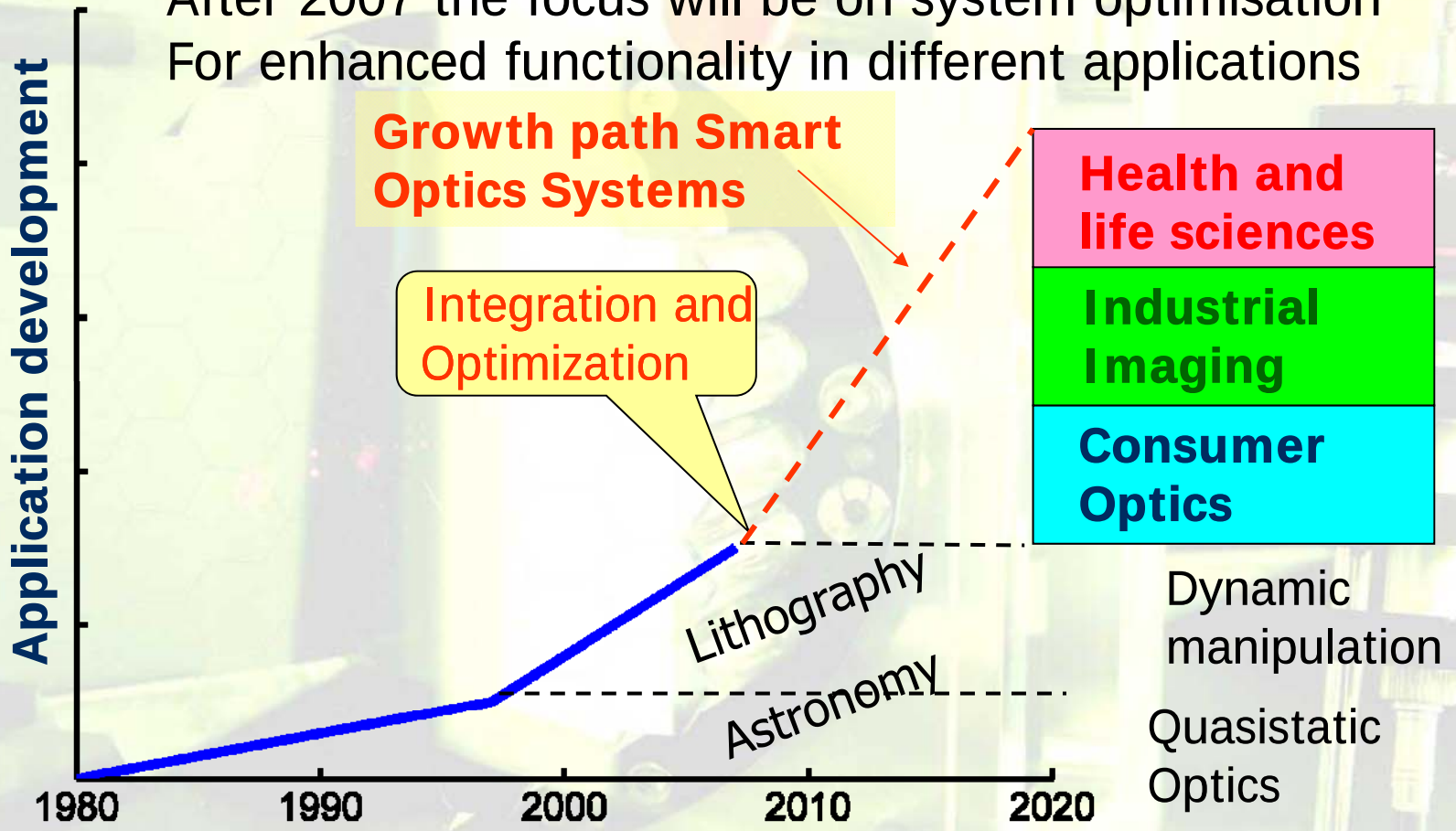
SOS project Image Manipulation for Wafer Plane Conformity in Optical Lithography systems.

Rob Munnig Schmidt

Mechatronic System Design TU Delft

Smart Optics Systems (SOS)

After 2007 the focus will be on system optimisation
For enhanced functionality in different applications



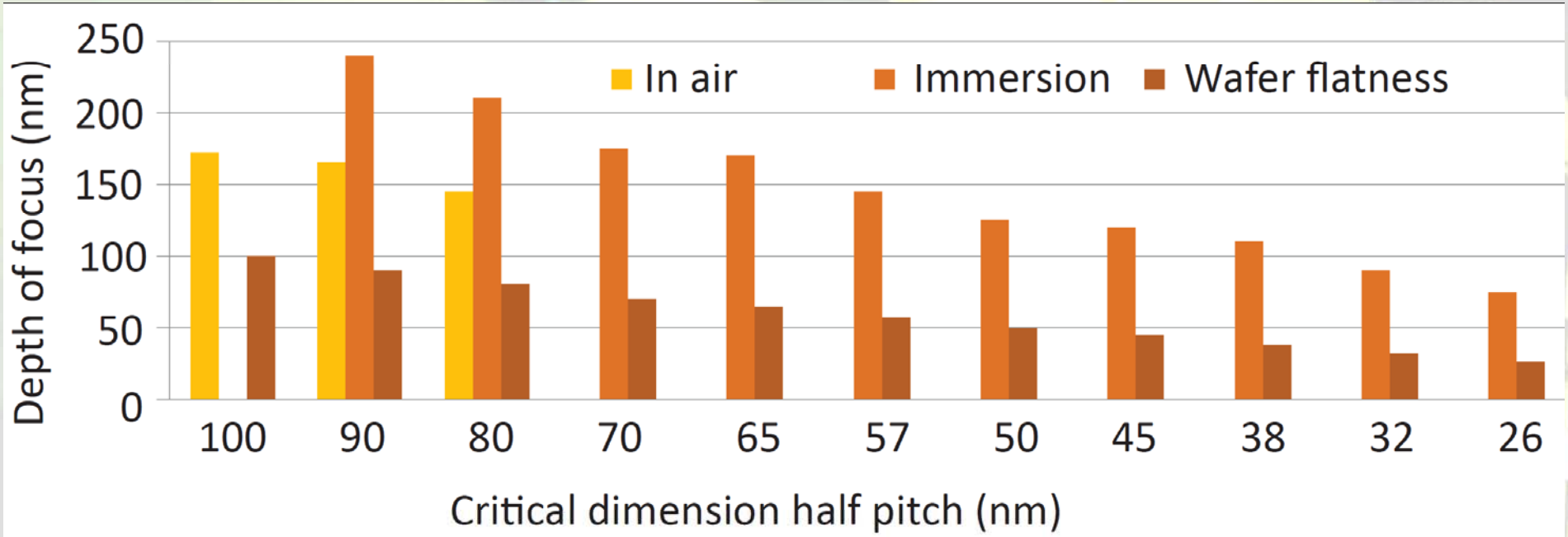
Different subjects in SOS

- 10433 Smart Microscopy of Biological Tissues
- 10442 Waveguide-based ECSL arrays.(ECSL : External-Cavity Semiconductor Laser)
- 10443 Integrated Smart Microscopy
- 10447 Integrated High-Resolution Observing through Turbulence
- 10448 Smart Multilayer Interactive Optics for Lithography at Extreme UV wavelengths
- 10449 Image Manipulation for Wafer Plane Conformity in Optical Lithography Systems

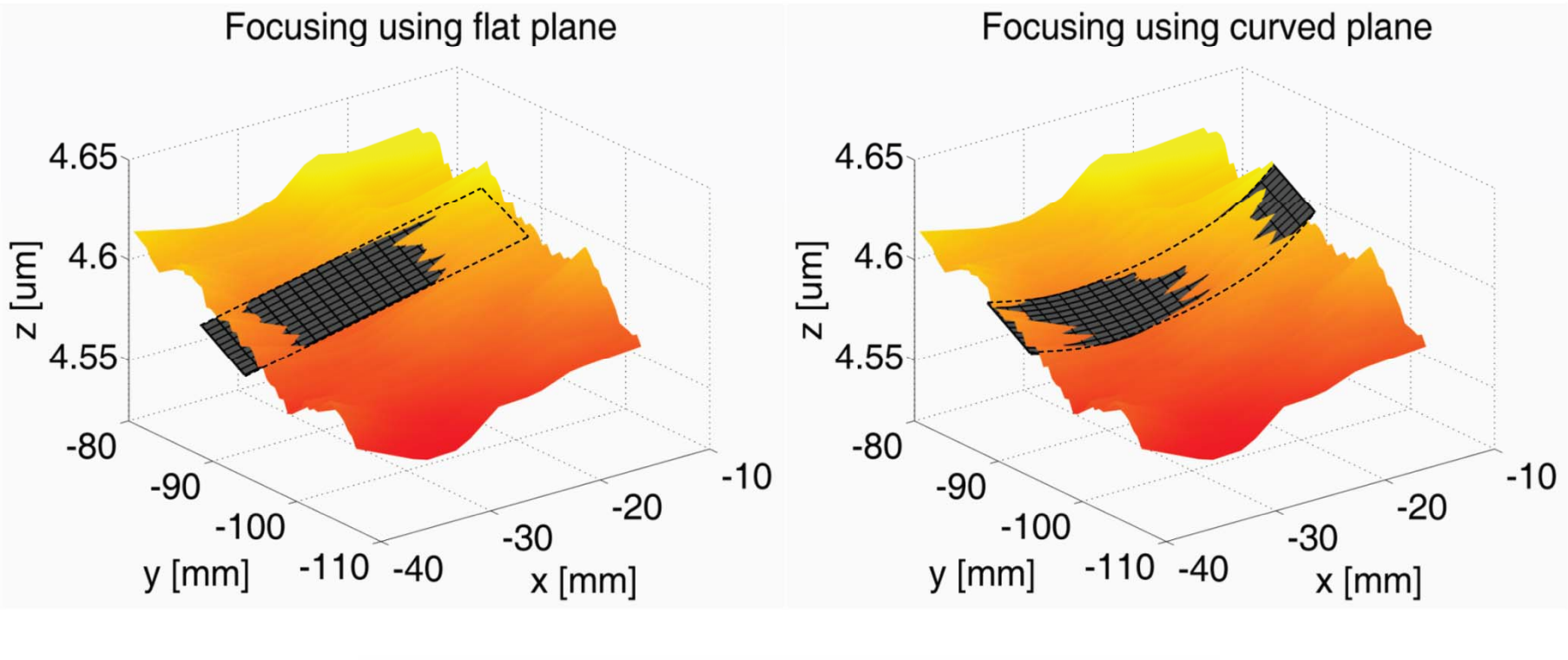
Image Manipulation for wafer plane conformity in Optical Lithography Systems.

- Geert-Jan Naaijkens, Nick Rosielle, Maarten Steinbuch (TU Eindhoven): Deterministic Reticle clamping
- Johan Vogel, Jo Spronck, Rob Munnig Schmidt (TU Delft): Real time deformation metrology
- Ruxandra Mustata, Rufus Fraanje, Michel Verhaegen: Distributed Control of Wafer Deformations in Photolithography Systems

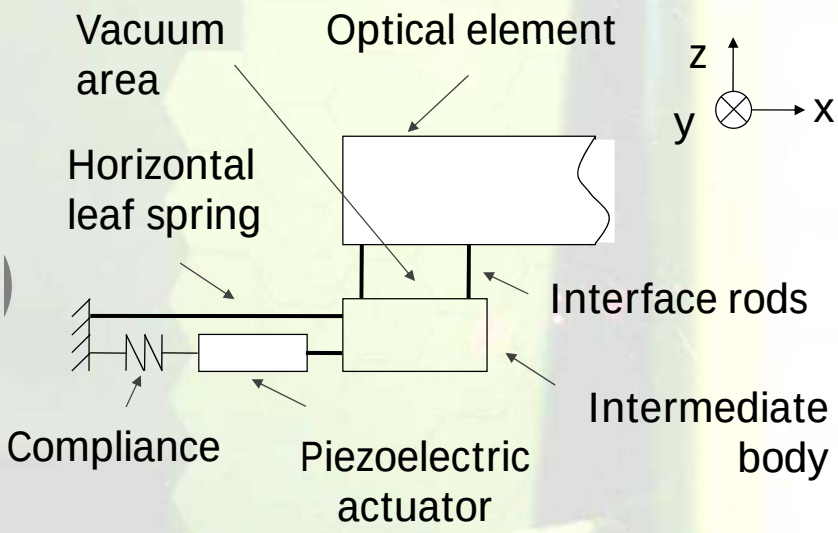
What's the problem



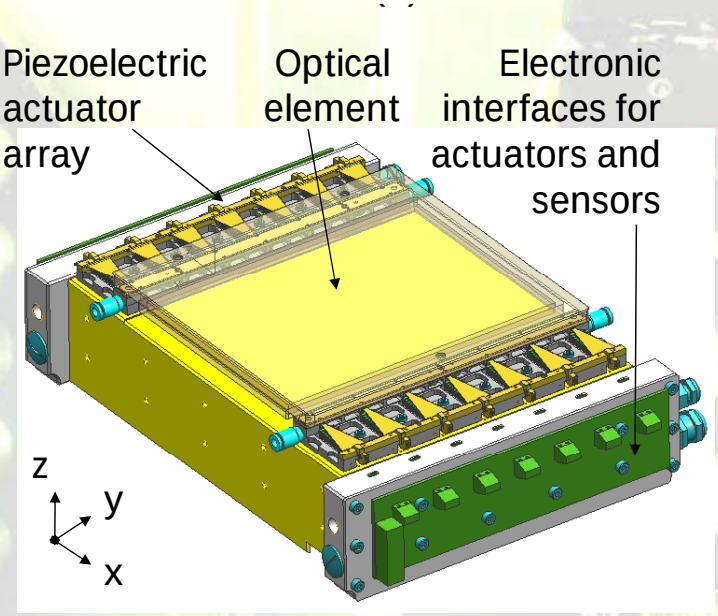
The wafer surface is not flat



Bending an optical element in the nm range is very critical

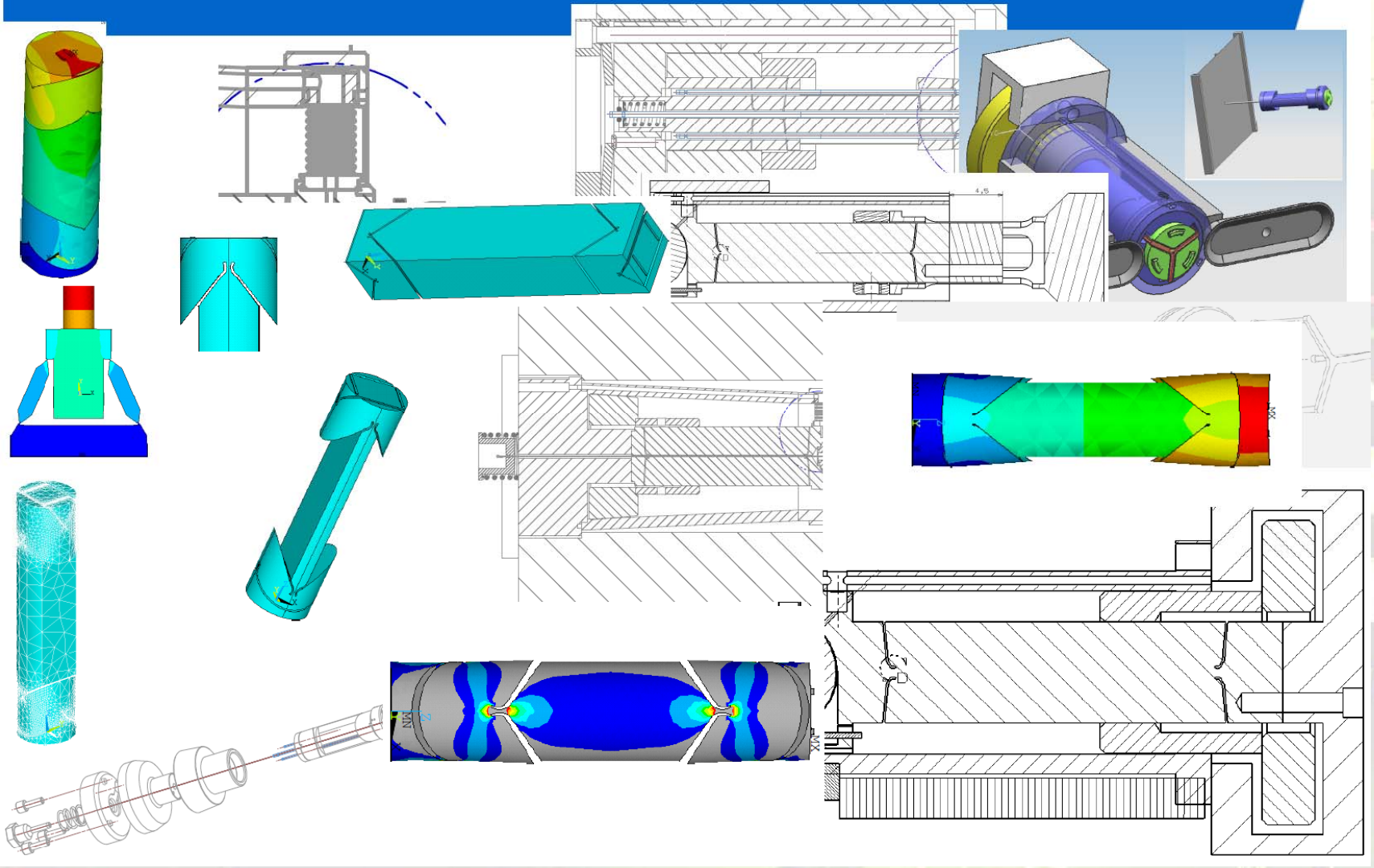


(b)

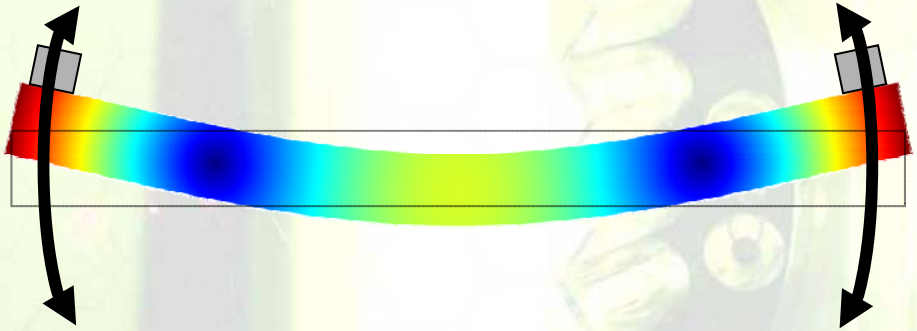


(c)

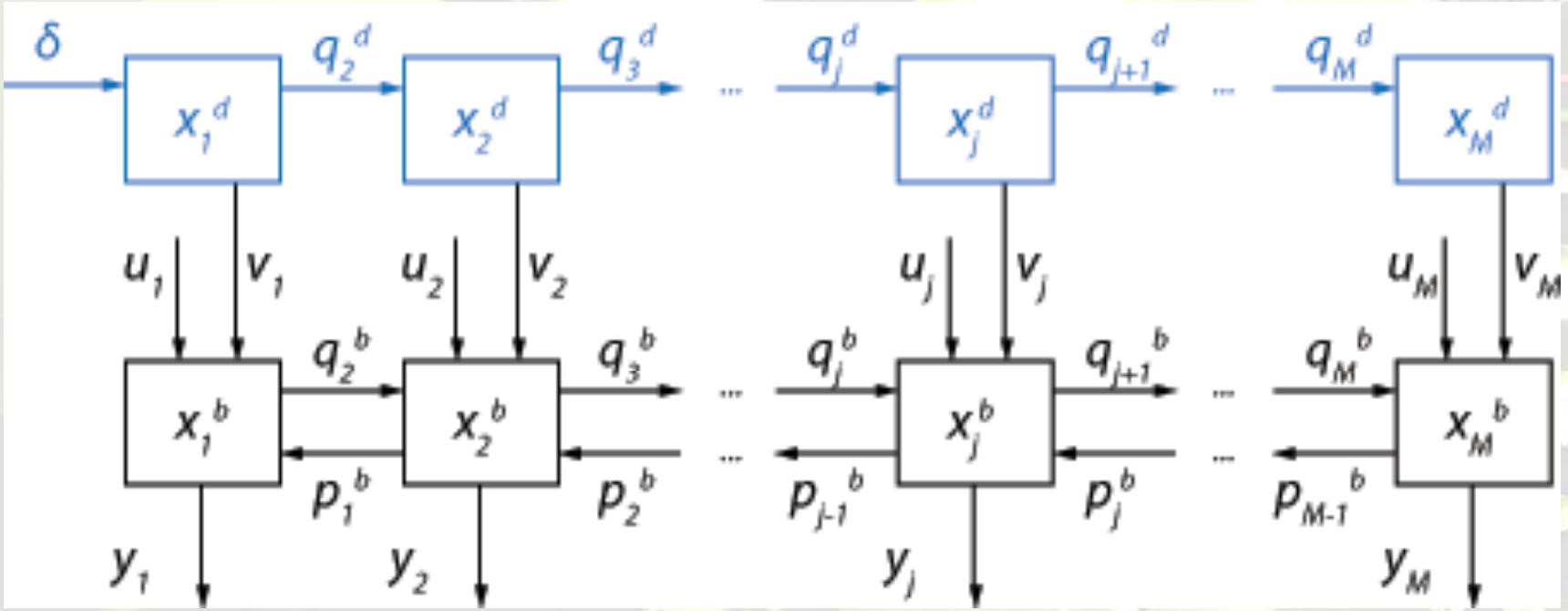
Mechanical design and engineering



Measurement outside the optical area



Distributed control of multiple actuators



Acknowledgements