Modell-Augen Manufaktur

Dr. Eva Lankenau

Targets

for

Optical
Coherence
Tomography

Special benefit of the OCT targets

Check your OCT quality specifications after:

- **OCT device transportation**
- **OCT device service**
- **OCT device modifications**
- **During OCT device development**

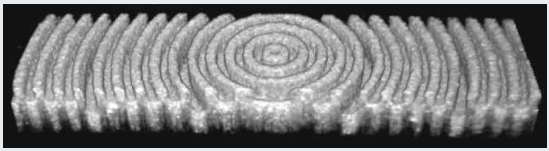
Three OCT targets

- **Lateral scale: check your lateral scan size**
- **Multilayer: one 3D OCT measurement to get your**
  - **OCT window depth**
  - **Numerical aperture**
  - **OCT roll-off**
  - **Sensitivity**
- **Nano particles: verify your lateral and axial resolution**

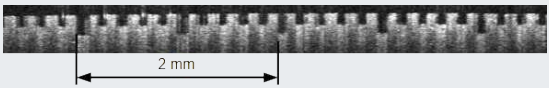
OCT target: Lateral scale

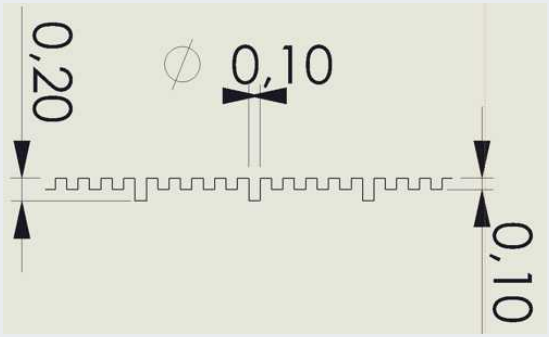
Measure your lateral OCT scan width

3D OCT



Central OCT Bscan



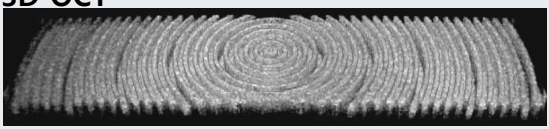


Rotationally symmetric OCT ruler.

Light-scattering ring structure embedded in transparent silicone. Covered with a 150µm thick cover glass

An OCT Bscan through the target center shows the OCT ruler as a cross section

3D OCT

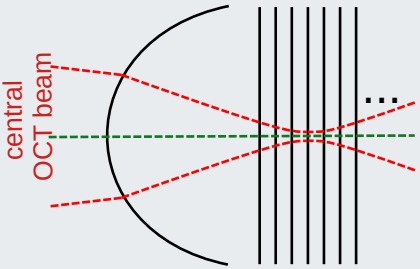


Maximum diameter of the ring structure is 16 mm

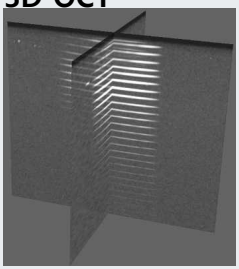
OCT target: Multilayer

Measure your

- OCT window depth
- OCT roll-off
- Numerical aperture
- OCT sensitivity



3D OCT



41 transparent layers behind a 10 mm thick lens.

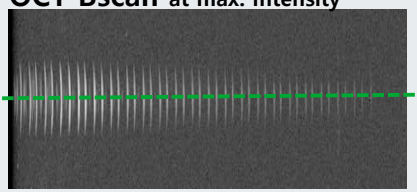
Insensitive to adjustment.

The numerical aperture is enhanced by the lens and can therefore be better determined.

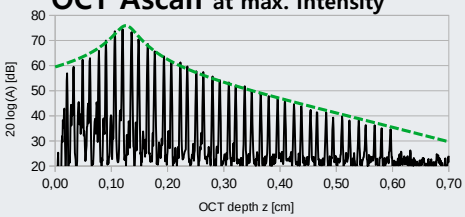
No oversaturated OCT signal: The target consists alternately of two materials whose refractive index difference is known and very small.

Minimal working distance is 16 mm.

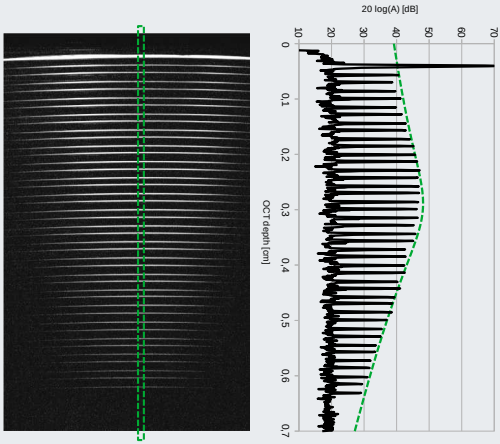
OCT Bscan at max. Intensity



OCT Ascan at max. Intensity



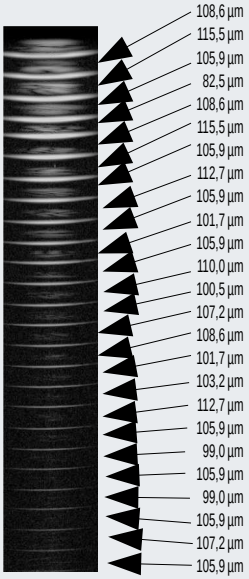
OCT target: Multilayer without lens



Without the lens, the intensity of the OCT probe must be reduced
so that the signal from the first slice does not oversaturate the OCT detector.

Sensitive to adjustment.

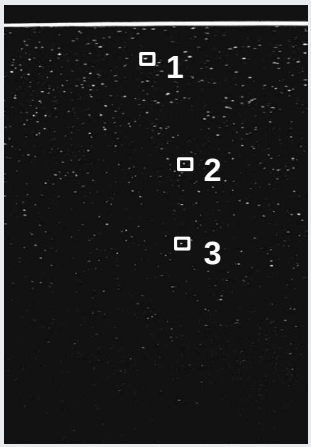
Minimal working distance is 0 mm.



Each layer is about 100 µm thick. The individual thicknesses are supplied with the respective serial number in a file.

OCT target: Nano particles

Measure your axial and lateral OCT resolution



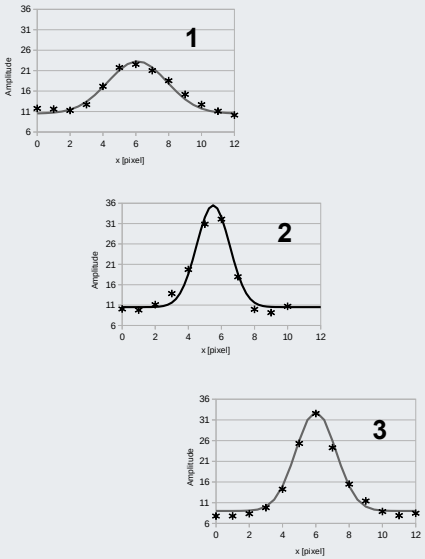
Silver nano particles embedded in transparent silicone covered by a 150 µm cover glass.

Ag nano particles size 200 nm – 400 nm

Particles concentration about 3000 particles pro 1 mm^3

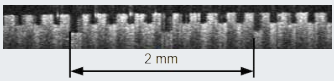
Silicone with nano particles size: Ø 24 mm x 7,5 mm

For other dimensions and/or Ag concentrations please contact us.



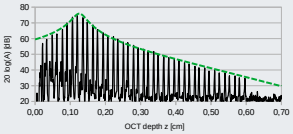
lateral resolution at different depths

OCT Targets



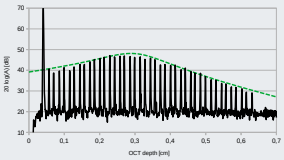
Article no. 511

Lateral scale target



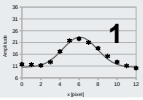
Article no. 521

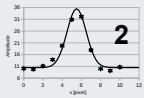
Multilayer target

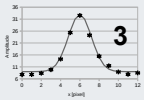


Article no. 522

Multilayer target without lens







Article no. 531

Nano particles target.

Concentration: about 300.000 particles pro mm³

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