



OTéO SAS

970 quai du 11 Nov. 1918

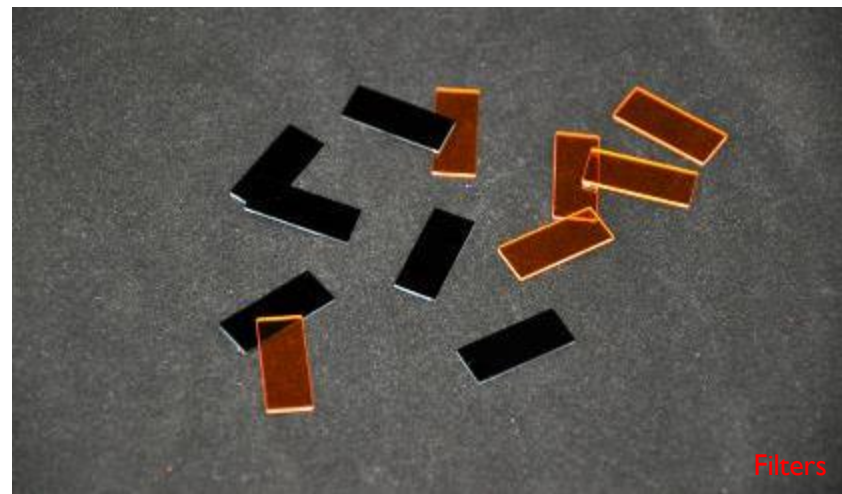
F30110 LA GRAND COMBE - FRANCE

www.oteo-optics.com

Tél. : +33 (0)4 66 54 48 67



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Activities :

- Optical Systems Design & Manufacturing
- **Biological Polishing** (French Tech)

Creators :

- Romain RAMEL : Sup'Optique
- Didier ROUSSE : Fresnel





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Production Floor

Lapping

Polishing

Φ from 1mm up to 600mm

High-Speed Polishing & Traditional one

Coating

Suppliers : Optimask, Umicore, Diamond Coating

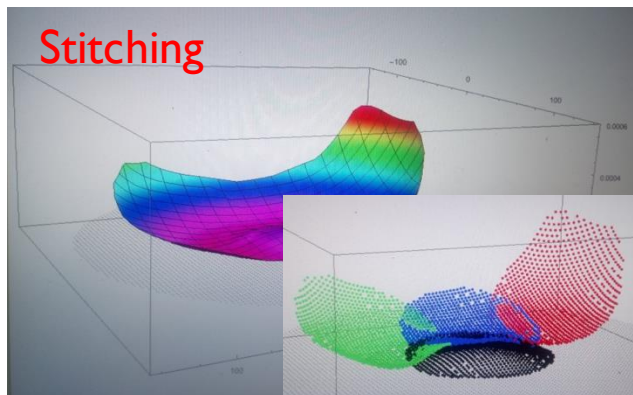
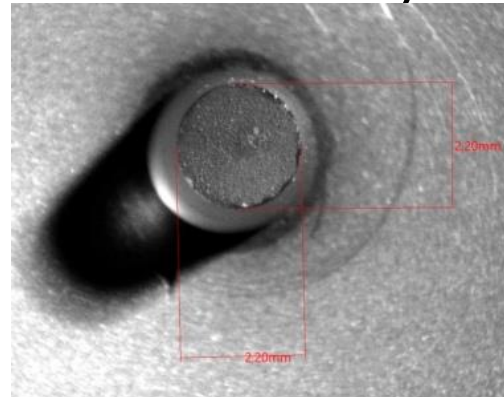




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Control

Inspection : Zygo Gpi
Curvature radius measurements ($\pm 2\mu\text{m}$ for $R_c < 1\text{m}$)
Binocular + XY measurements
Goniometer 0.1 arc-second accuracy



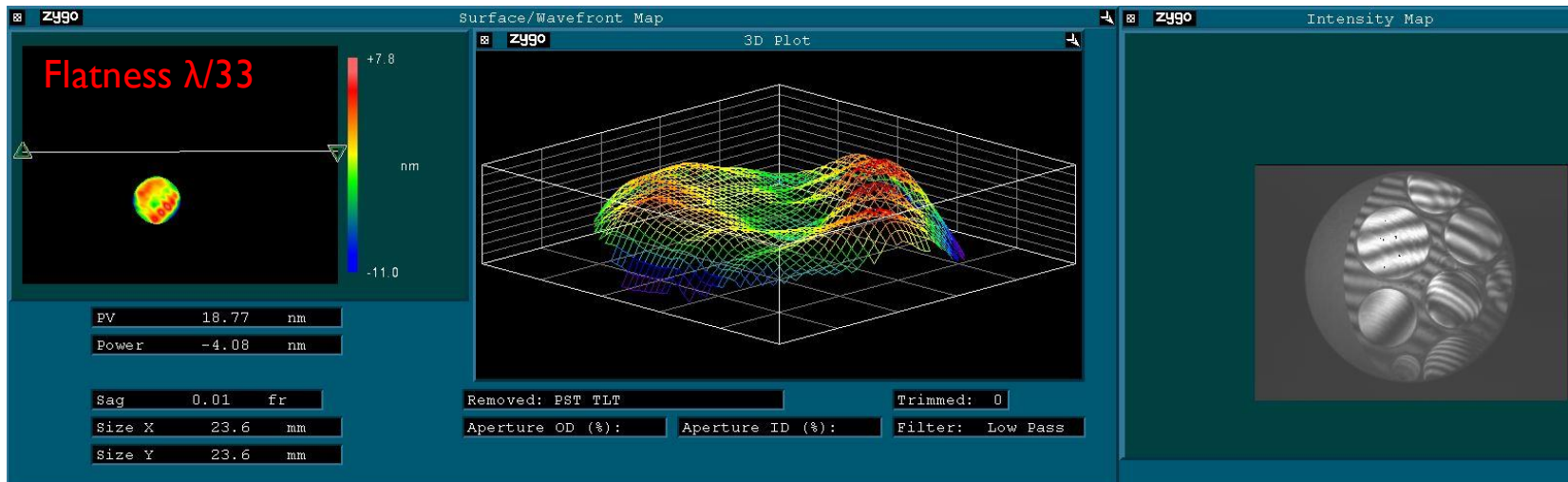
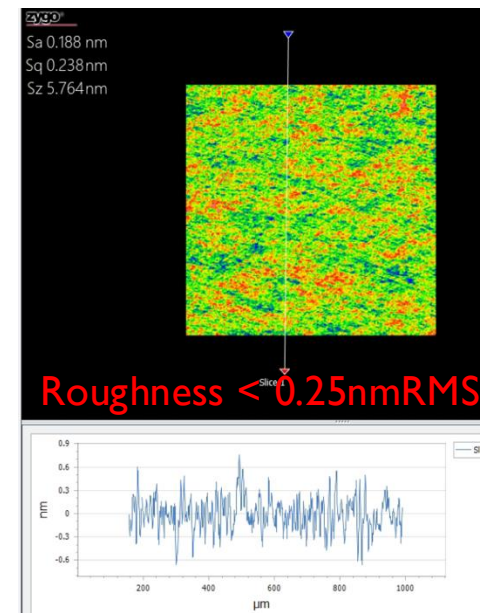


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Know-How

Molecular Adherence : **Simple**
Robustified
Opto-mechanical integration

Optics Quality :
up to $\lambda/20$ PTV (*depending diameters*)
Superpolishing : roughness < 0.25nmRMS (*depending materials*)





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All Materials

All glasses

All crystals : fluorine, quartz, YAG...

All metals : stainless steel, Copper, Tin,...

ZeroDur, SiC & compounds : SIC-4H

IR materials (ZnSe, ZnS, Ge, HR FZ Silicon, ...)



Ø254mm Germanium Lens



ZnSe Windows



Stainless Steel Mirrors



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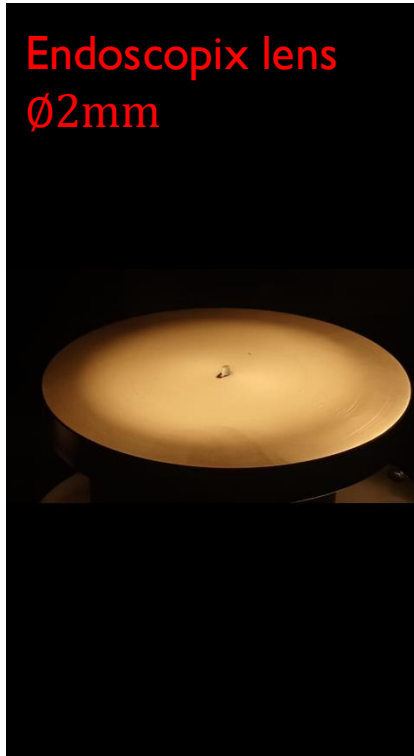
Complex Geometry

Aspherics, torus, grooves or holes on optical surface, ...

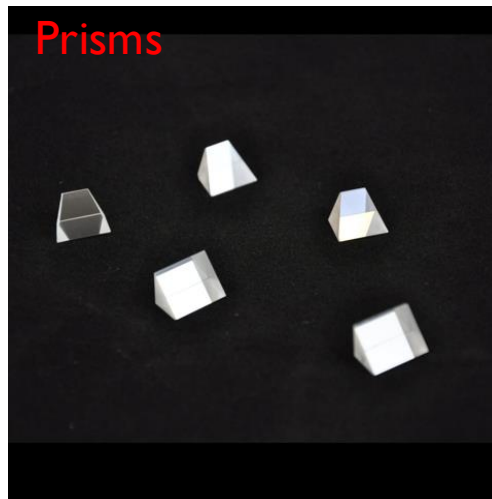
Prisms : below 1 arc-second accuracy angles !

Density, Lenses, Windows...

Endoscopix lens
Ø2mm



Prisms



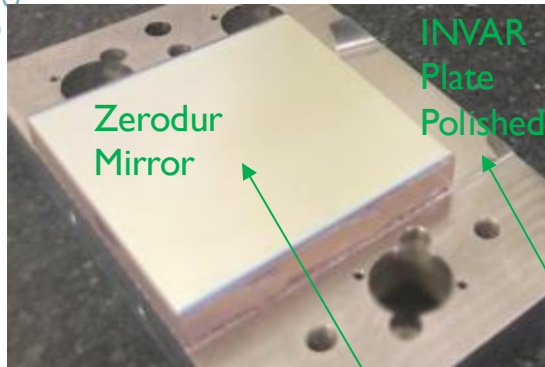
"Pyramid" Window





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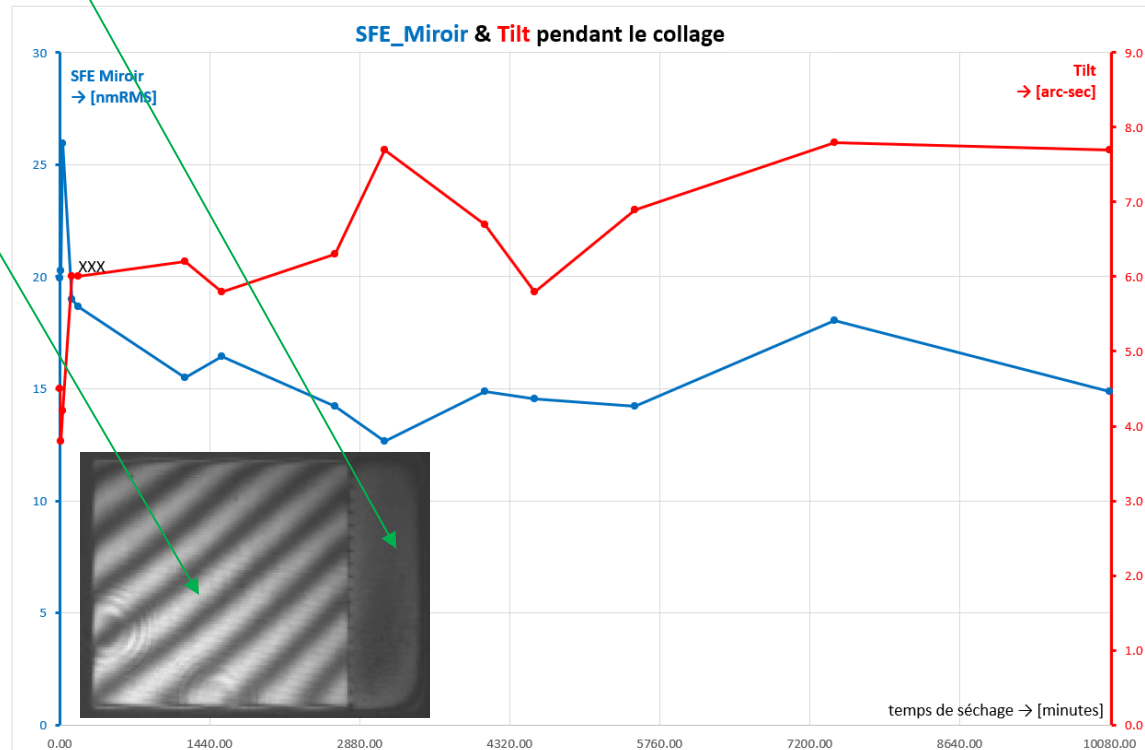
Gluing Assembly Vacuum; T° : 150K



After Gluing & Drying :

Flatness : $< \lambda/6.5$ PTV

Parallelism : < 7 arc-seconds



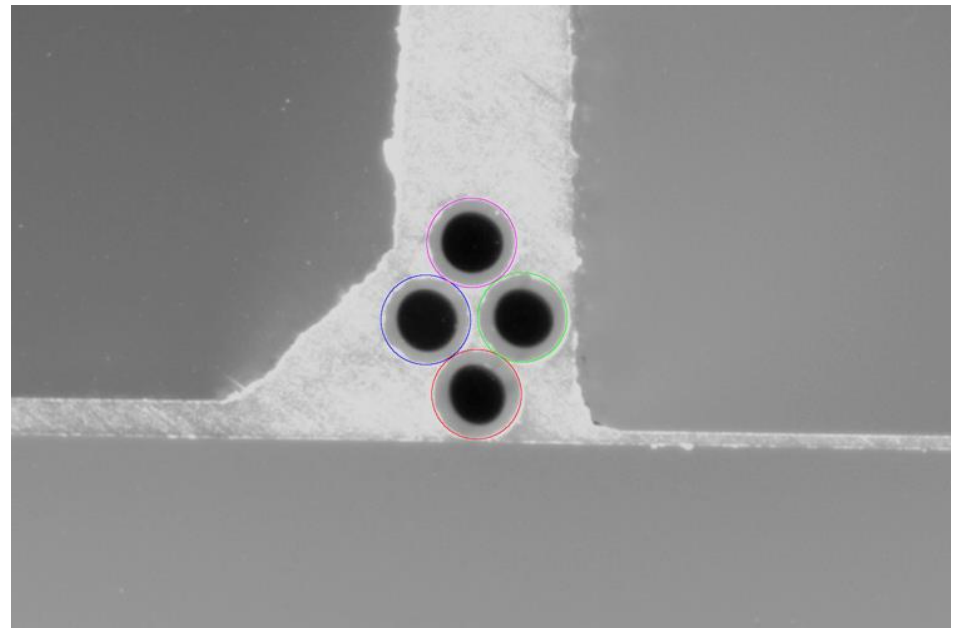
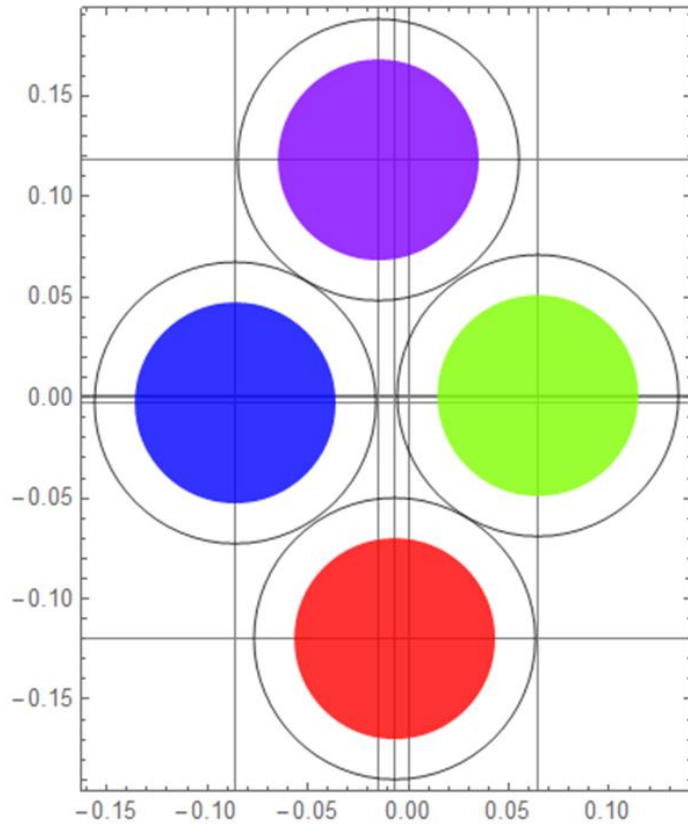


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Optical Fiber Assembly

MultiMode Fibers 100/140;
Clad center XY-coordinates :

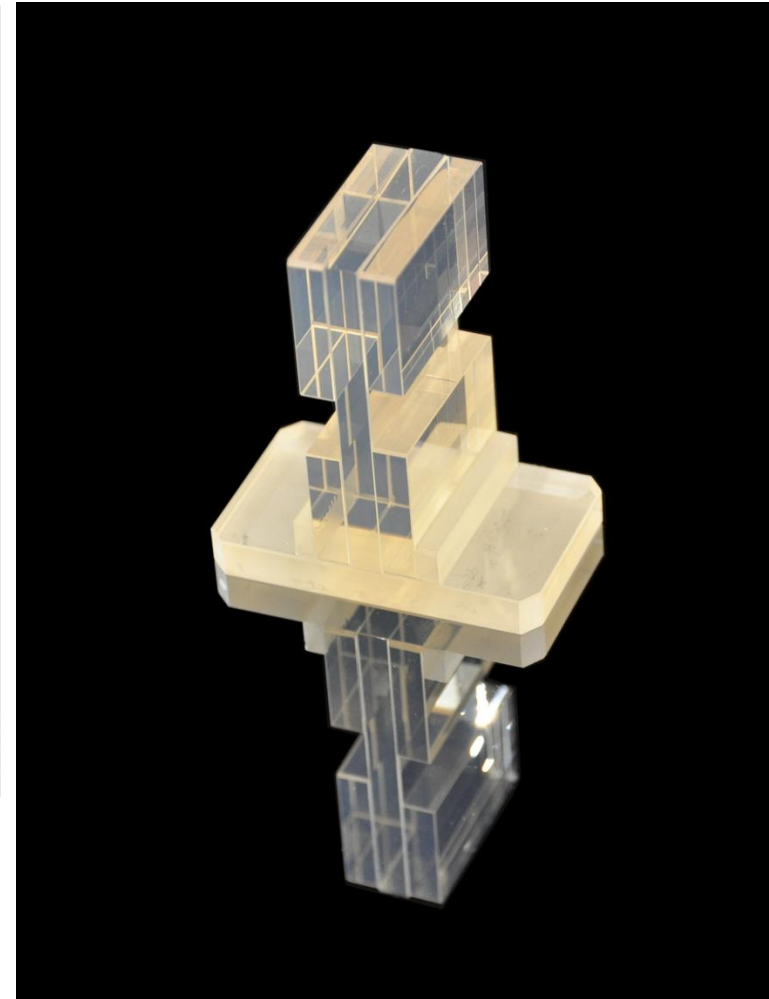
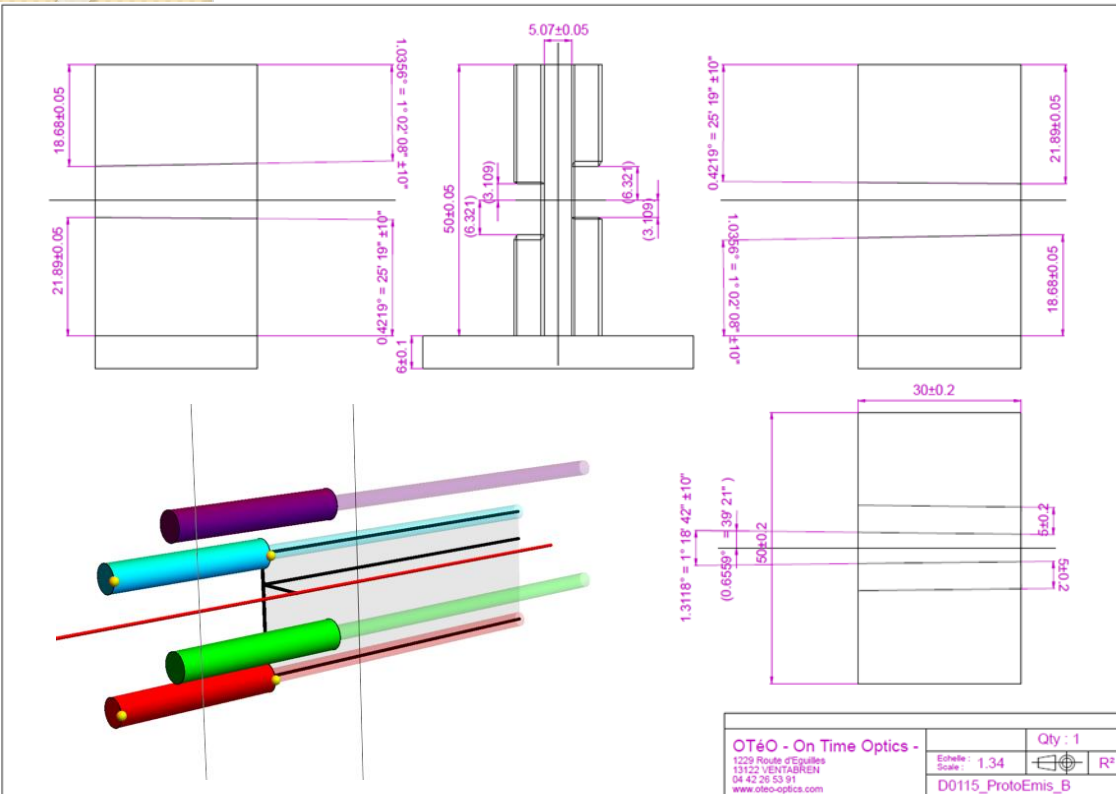
	Δx	Δy
MM1	-0.0069	-0.1199
MM2	0.0649	0.001
MM3	-0.0865	-0.003
MM4	-0.0147	0.118





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Molecular Adherence

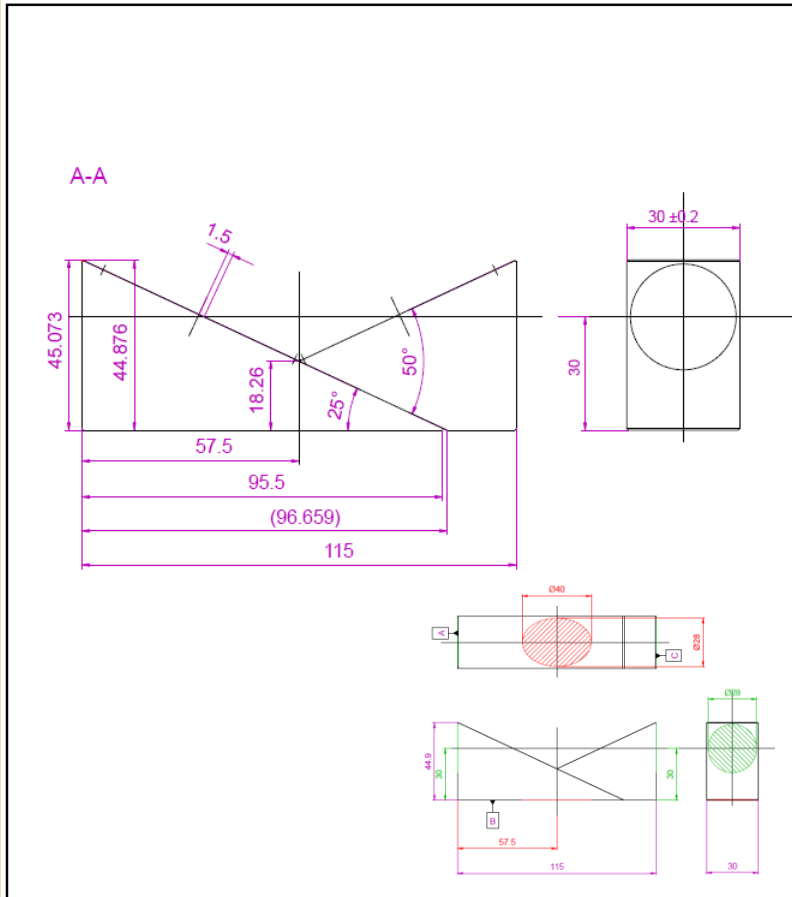


Angles @ +/-10"
Dimensions @ +/- 0.05mm



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Molecular Adherence



Material : Suprasil 3001

Double pass WFE :

3 fringes / Ox
1 fringe / Oy

OTéo - On Time Optics -

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13122 VENTABREN
04 42 26 53 91
www.oteo-optics.com

Qty : 1

Echelle : 1
Scale :



R²

D0084_EN002_C

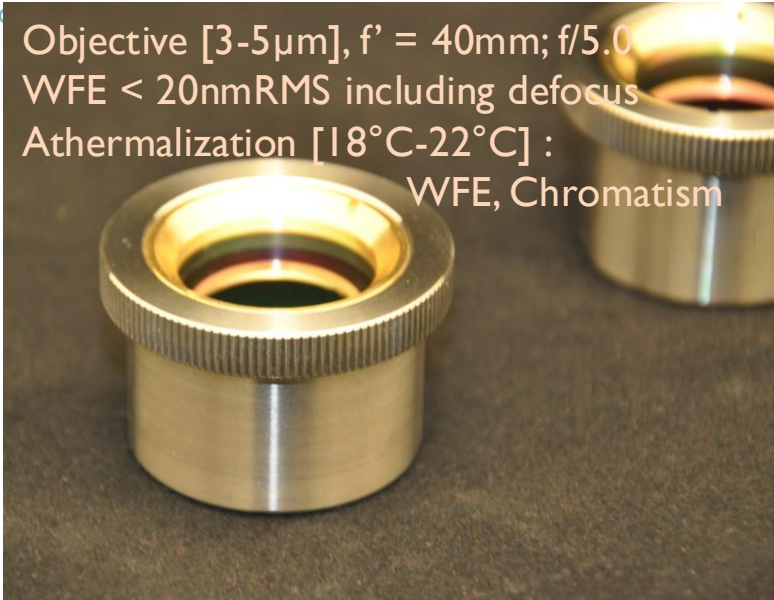


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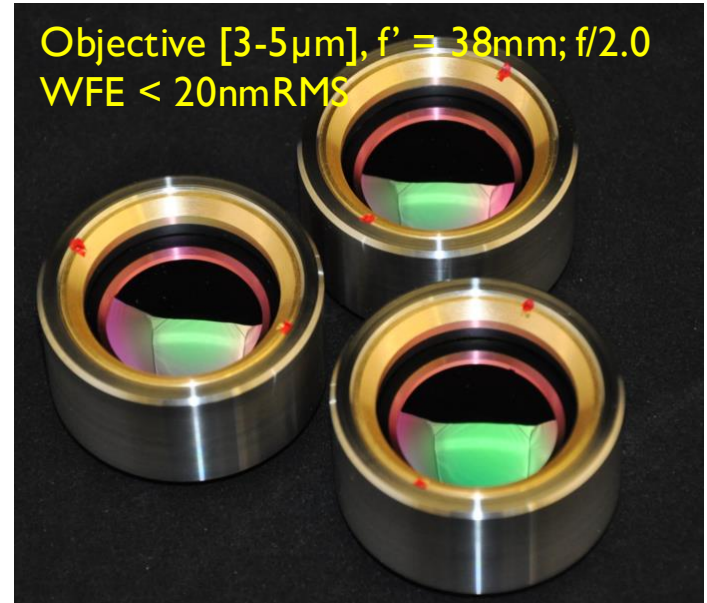
Optics : Design

& Manufacturing

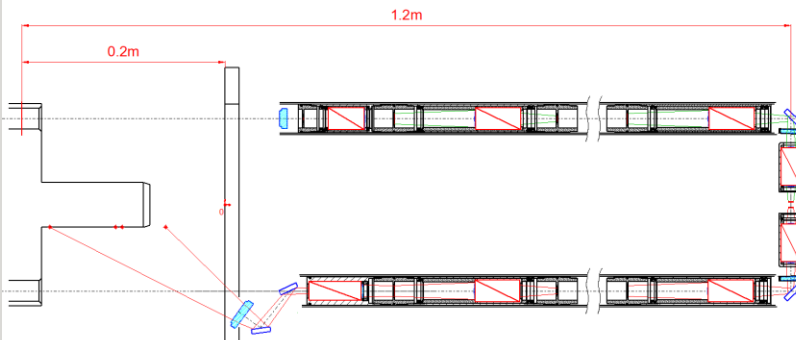
Objective [3-5 μ m], $f' = 40$ mm; f/5.0
WFE < 20nmRMS including defocus
Athermalization [18°C-22°C] :
WFE, Chromatism



Objective [3-5 μ m], $f' = 38$ mm; f/2.0
WFE < 20nmRMS



Nuclear Endoscope
Design & Manufacturing



Telecentric Objective, $f' = 82.5$ mm; f/4.6
WFE < 30nmRMS
Distorsion < 0.08%





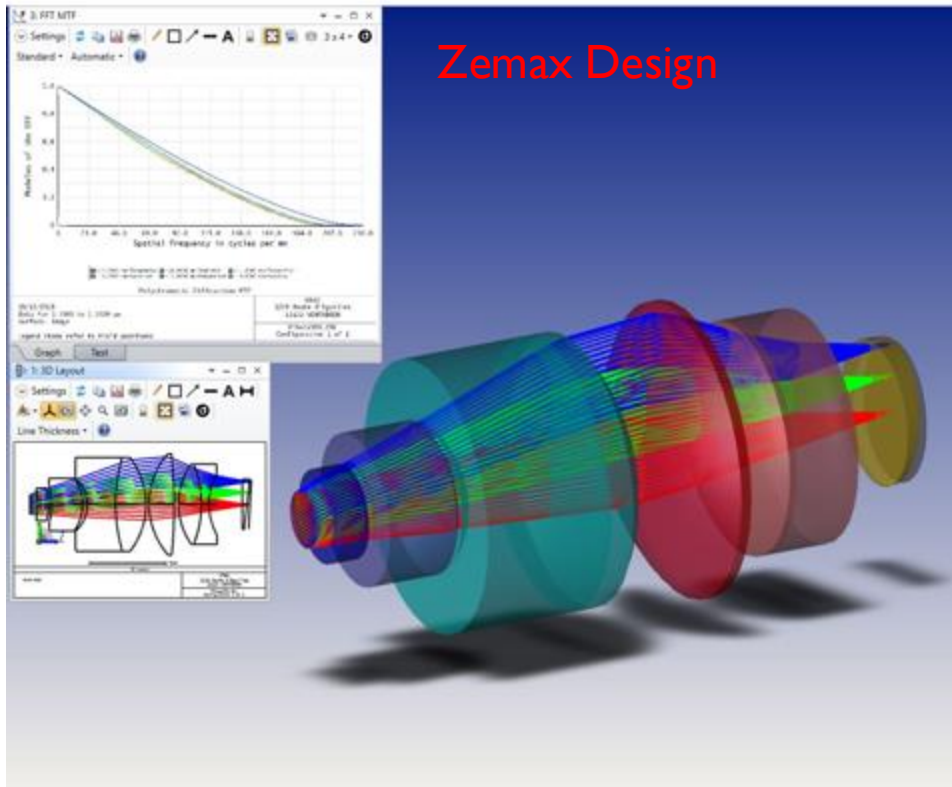
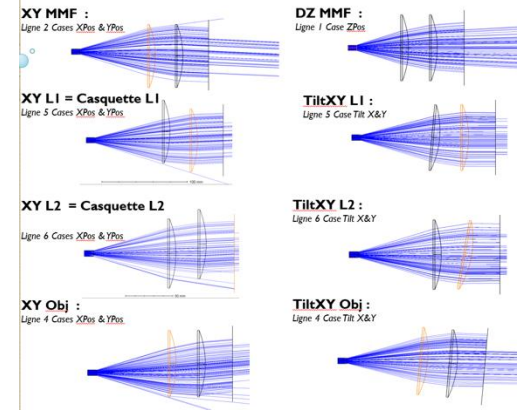
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Optical Design

Softwares : Zemax, Mathematica

- Optical Fiber telemeter
- Optics optimization

Tolérancement Voie2





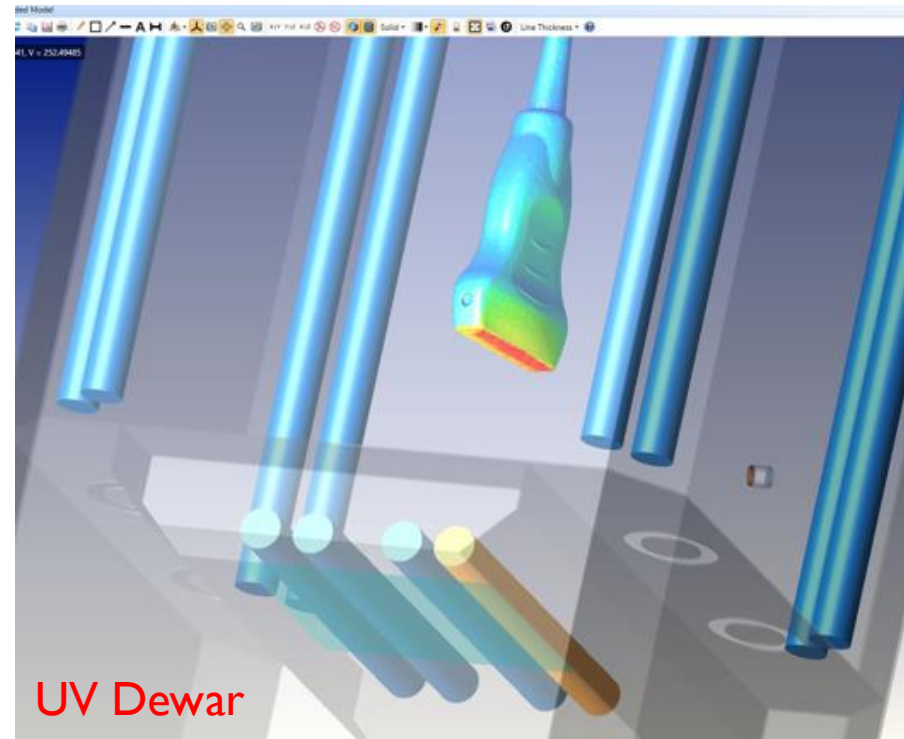
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Photometric Design

Softwares :

Zemax, LightTools

- Medical optics
- UV Sterilization dewar





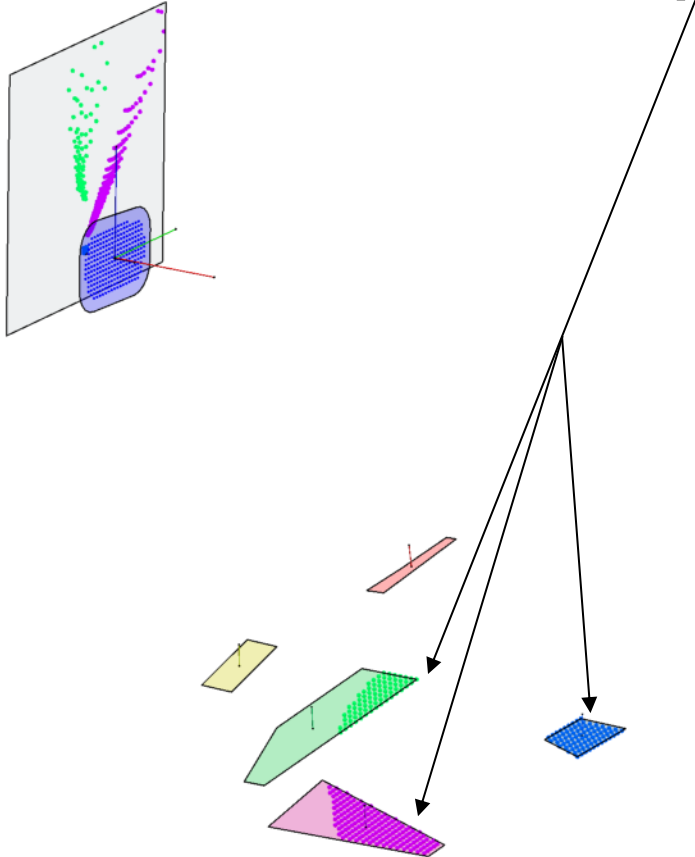
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Studies & Prototypes

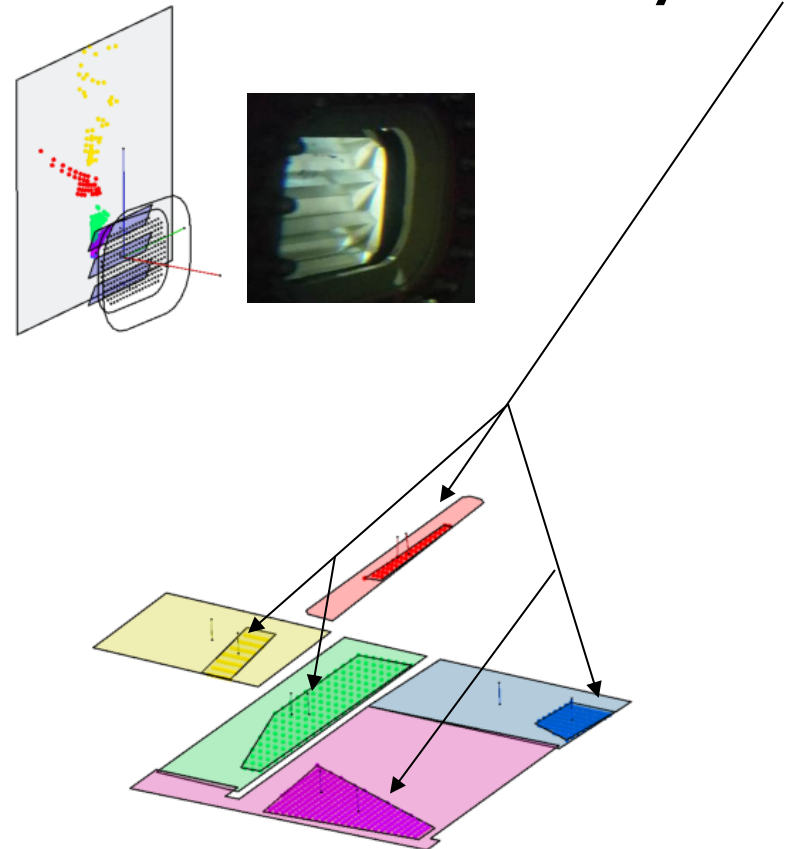
Fresnel Lense Window

View full reservoir area

Reservoir filled : Partial Visibility



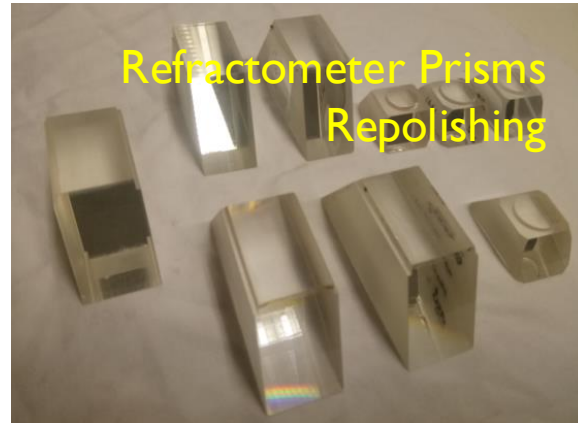
Reservoir filled : Full Visibility





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Refurbishment



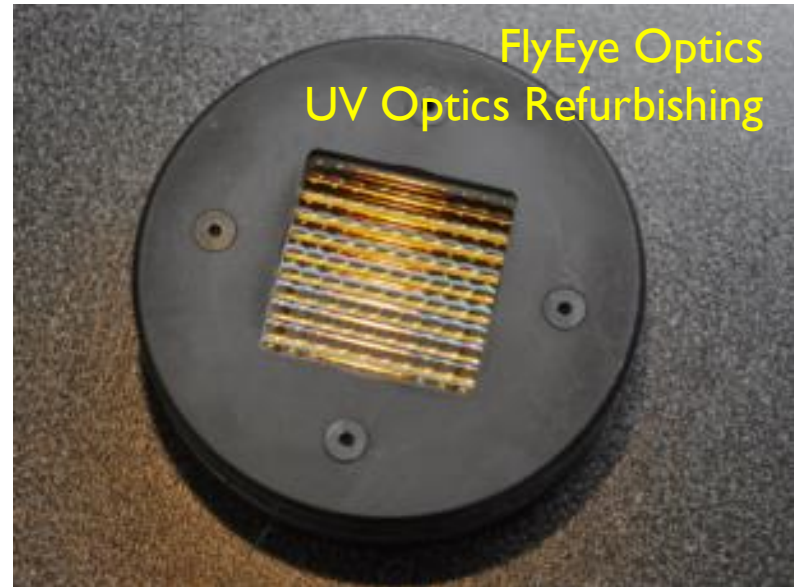
Refractometer Prisms
Repolishing



Specific Magnifier
Repolishing



Lenses Curvature Radius
Repolishing

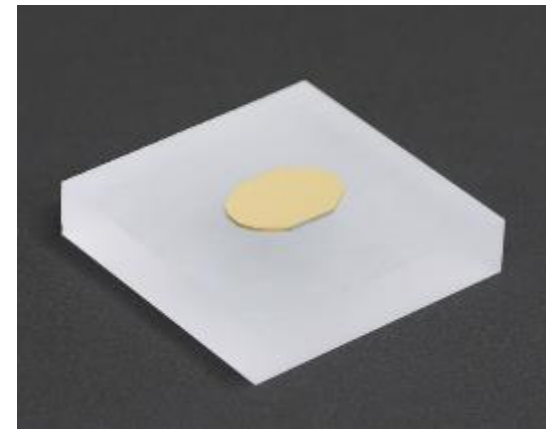


FlyEye Optics
UV Optics Refurbishing



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Customers

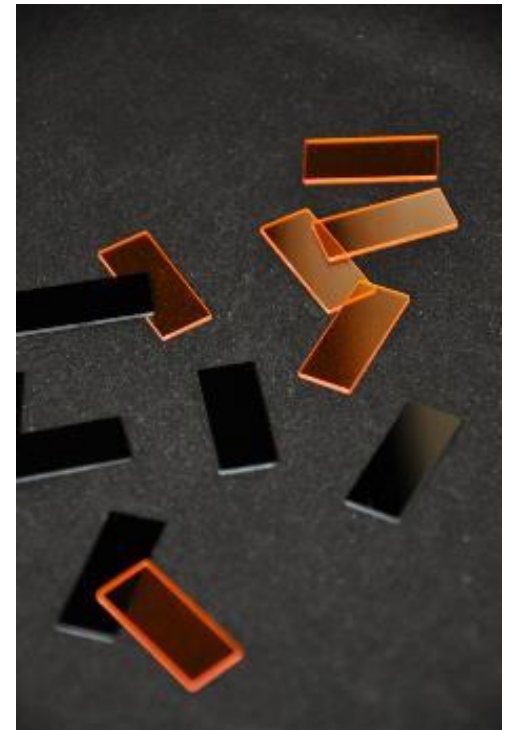
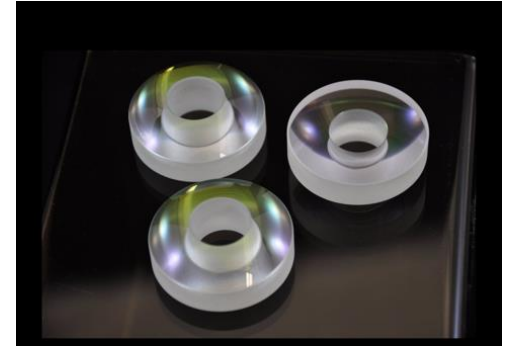
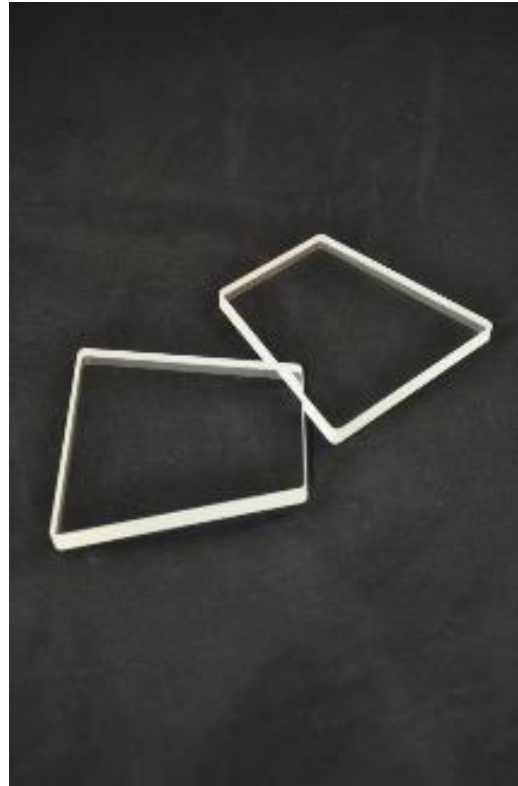
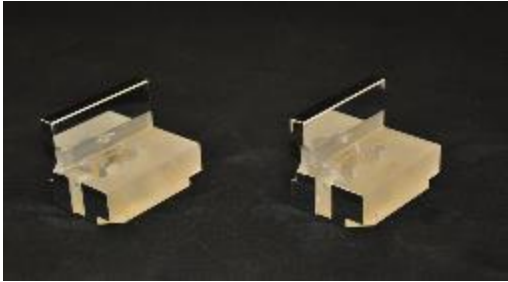


- Technologic Groups :
EADS, HORIBA, DASSAULT,...
- Research Organisms :
CEA, CNRS, IFPEN, ESO, ...
- Industries : PME looking for optical competencies



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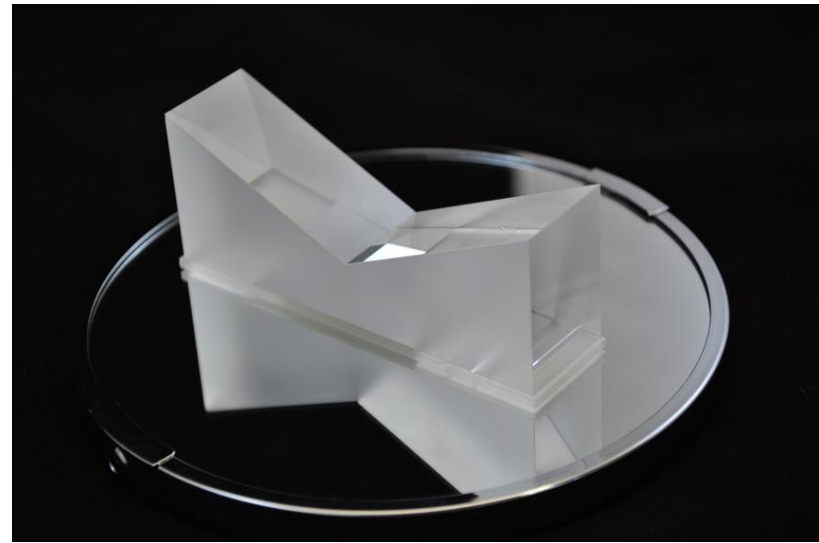
Few Products





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OTéo is :



- **On Time** Delivery
- A **Team** at your service