#### High resolution wavefront sensing solution for quality control of Sports Optics: PHA riflescopes, binoculars

# **Challenges / Goals**

Sport optics (ex. riflescopes, binoculars) is optical system with specific technical requirements such as high accuracy performance.

Characterizing Sport optics with precise, complete and reproducible measurements.

# **PHASICS** propose various solution for optical quality control of Sport Optics: All levels of integration from the single wavefront sensor to the complete turnkey system

Versatile measurement

One-step alignment process

Live & single-shot measurement

Direct access to measurement results

- Modular metrology system => Kaleo Kit  $\checkmark$
- Wavefront test station => Kaleo MultiWAVE  $\checkmark$

## Outcomes

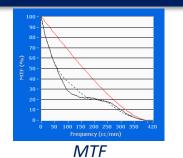
- Wavefront measurement
- Robust PSF and MTF (on & off axis) calculations
- Optical aberrations, Zernike analysis
- Comparison to Zemax design
- Magnification

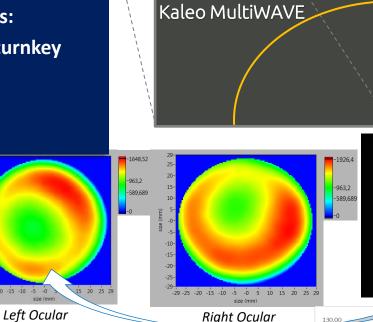
# Advantages

#### Precision

- Nanometric accuracy
- High-resolution measurement

# MTF





Coefficient valu

(nm RMS)

<sup>laleo</sup>MultiWAVE

### **Reliable measurement**

-29 -25 -20 -15 -10 -5 -0

- Operator independent results
- Compatible with workshop enviroment
- Vibration insensitivity



PHASICS

Lateral

(QWLSI)

specializes

Shearing

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Binocular

resolution wavefront sensors from

UV to far IR. based on Quadriwave

in high

Interferometry

Reference

mirror

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# Thank you! Question? For more information: Contact us: contact@phasics.fr



