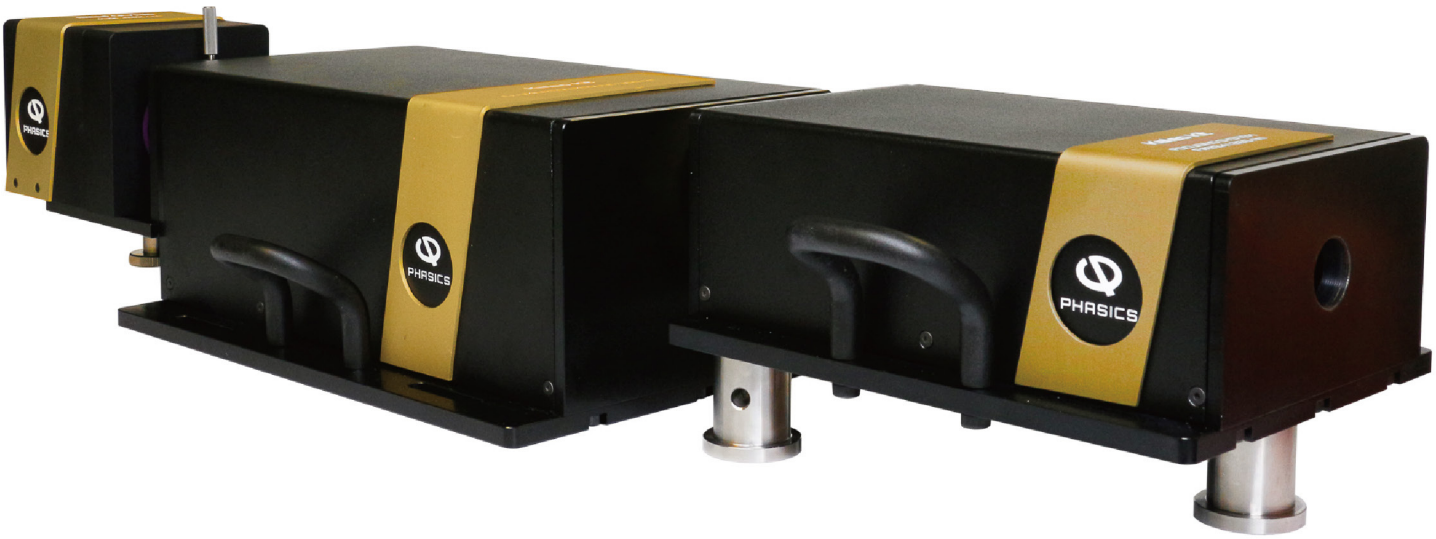
Phasics
The phase control company

Kaleo Kit

Fully Modular Metrology Solution From UV to IR



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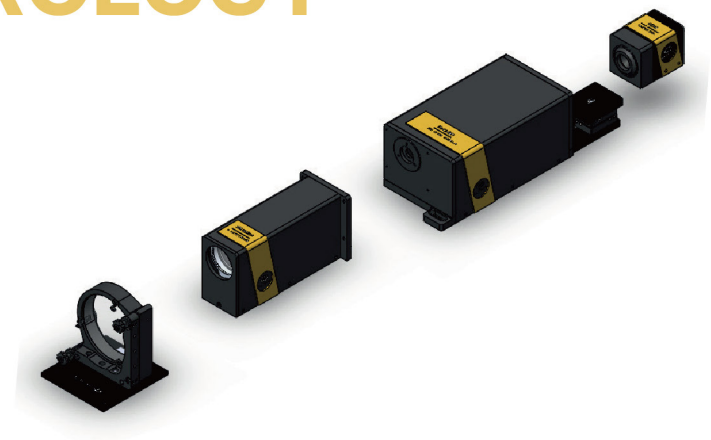
ASSEMBLE YOUR OWN MODULAR METROLOGY SYSTEM...



With the rise in complexity of optical systems, metrology teams often need **specific measurement parameters** (test wavelength, accuracy resolution, relevant outcomes...). PHASICS answers this challenge with **Kaleo Kit**, its modular system for optics qualification.

Kaleo Kit is the combination of a broad range of compatible modules, that let you create a **cost-effective, compact, and easy-to-use system** that can adapt to a wide range of measurement configurations and ensure the quality of your sample at all development stages.

Access all the characteristics of your sample in a **single shot acquisition**: TWE, RWE, wavefront aberrations, MTF, PSF, and a lot more!

VERSATILE

- Available from Deep UV to LWIR
- Modules compatible with stand-alone use
- All measurement configurations: finite-finite, infinite-finite...
- Same modules fit for different setups

POWERFUL UNIQUE TECHNOLOGY

- High resolution
- Dedicated to large aberrations measurement
- Achrormatic measurement: for any test wavelength
- Nanometric sensitivity

EASY-TO-USE

- Compact
- Designed for easy alignment
- Quick access to all results

FOR AFOCAL SYSTEMS (I)...

Measurement of Small Aperture Optics (< 8mm) Transmitted Wavefront Error (TWE)

REFERENCE SETUP

Phasics WFS | Illumination Module | Reference Flat Mirror

MEASUREMENT SETUP

Phasics WFS | Illumination Module | System Under Test | Reference Flat Mirror

Measurement of Small Aperture Optics (< 8mm) Reflected Wavefront Error (RWE)

REFERENCE SETUP

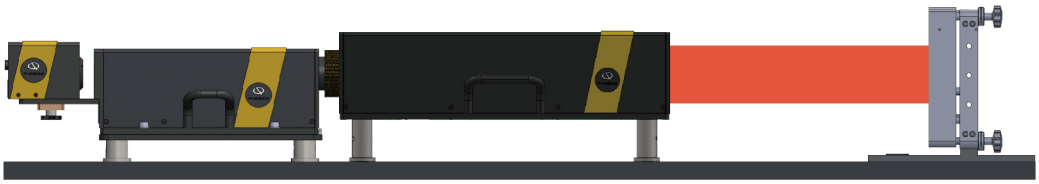
Phasics WFS | Illumination Module | Reference Flat Mirror

MEASUREMENT SETUP

Phasics WFS | Illumination Module | System Under Test

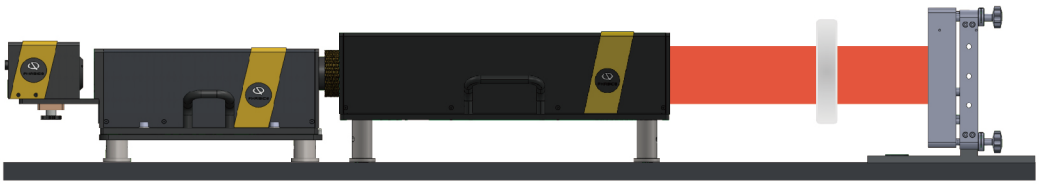
Measurement of Large Aperture Optics (up to 130mm) Transmitted Wavefront Error (TWE)

REFERENCE SETUP



Phasics WFS | Illumination Module | Beam Expander | Reference Flat Mirror

MEASUREMENT SETUP



Phasics WFS | Illumination Module | Beam Expander | System Under Test | Reference Flat Mirror

FOR AFOCAL SYSTEMS (II)...

Measurement of Large Aperture (up to 130mm) Reflected Wavefront Error (RWE)

REFERENCE SETUP

Phasics WFS | Illumination Module | Beam Expander | Reference Flat Mirror

MEASUREMENT SETUP

Phasics WFS | Illumination Module | Beam Expander | System Under Test

Measurement of Transmitted Wavefront Error (TWE) for Small Telescope Systems

REFERENCE SETUP

Phasics WFS | Illumination Module | Reference Flat Mirror

MEASUREMENT SETUP

Phasics WFS | Illumination Module | Telescope Under Test(Small) | Reference Flat Mirror

Measurement of Transmitted Wavefront Error (TWE) for Large Telescope Systems

REFERENCE SETUP

Phasics WFS | Illumination Module | Beam Expander | Reference Flat Mirror

MEASUREMENT SETUP

Phasics WFS | Illumination Module | Beam Expander | Telescope Under Test (Large) | Reference Flat Mirror

FOR FOCUSING SYSTEMS (I)...

Measurement of of Transmitted Wavefront Error (TWE) for Small Infinite/Finite Systems

REFERENCE SETUP

Phasics WFS | Illumination Module | Reference Flat Mirror

MEASUREMENT SETUP

Phasics WFS | Illumination Module | Telescope Under Test(Small) | Reference Concave Mirror

Measurement of Transmitted Wavefront Error (TWE) for Large Infinite/Finite Systems 1

REFERENCE SETUP

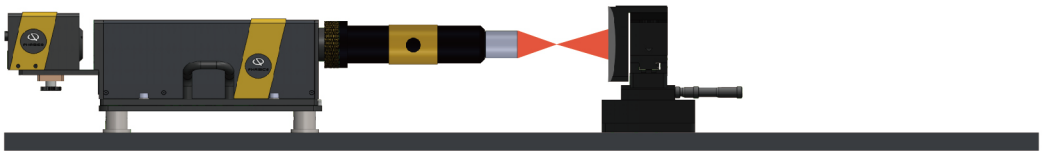
Phasics WFS | Illumination Module | Beam Expander | Reference Flat Mirror

MEASUREMENT SETUP

Phasics WFS | Illumination Module | Beam Expander | Lens Under Test(Large) | Reference Concave Mirror

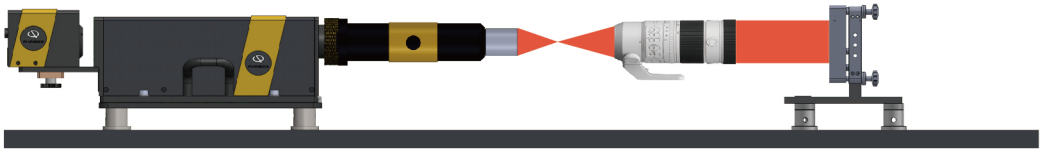
Measurement of Transmitted Wavefront Error (TWE) for Large Infinite/Finite Systems 2

REFERENCE SETUP



Phasics WFS | Illumination Module | Focusing System | Reference Concave Mirror

MEASUREMENT SETUP

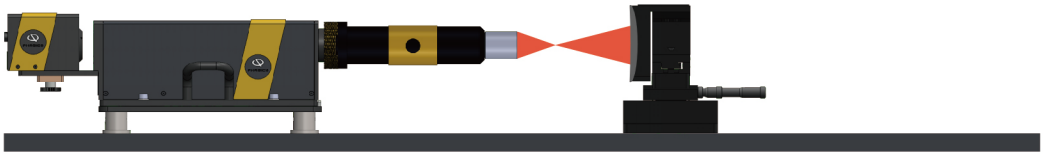


Phasics WFS | Illumination Module | Focusing System | Lens Under Test(Large) | Reference Flat Mirror

FOR FOCUSING SYSTEMS (II)...

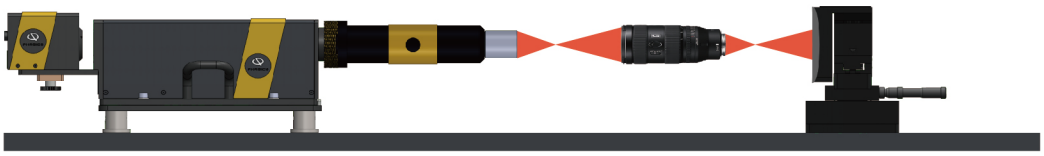
Measurement of Transmitted Wavefront Error (TWE) for Finite to Finite Systems

REFERENCE SETUP



Phasics WFS | Illumination Module | Focusing System | Reference Concave Mirror

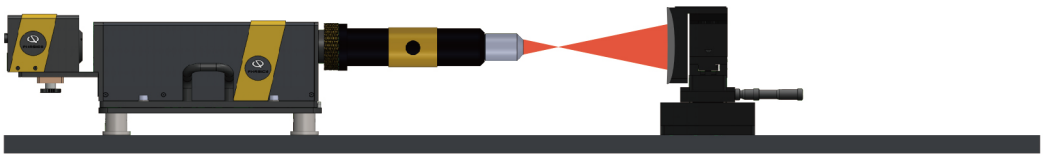
MEASUREMENT SETUP



Phasics WFS | Illumination Module | Focusing System | Lens Under Test(Finite-Finite) | Reference Concave Mirror

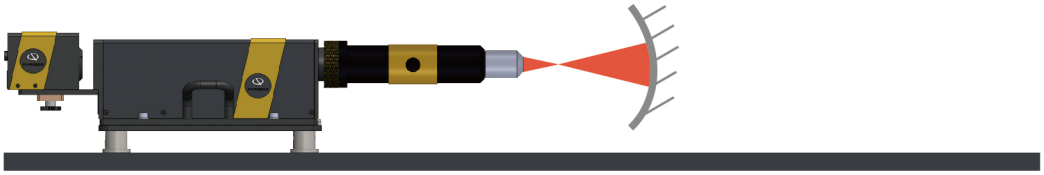
Measurement of Reflected Wavefront Error (RWE) for Concave Mirrors

REFERENCE SETUP



Phasics WFS | Illumination Module | Focusing System | Reference Concave Mirror

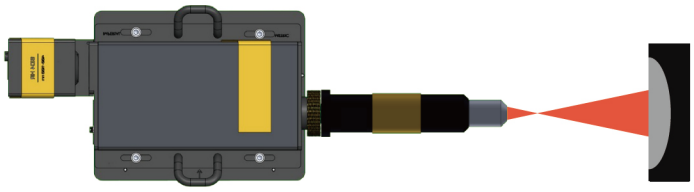
MEASUREMENT SETUP



Phasics WFS | Illumination Module | Focusing System | Concave Mirror Under Test

Measurement of Reflected Wavefront Error (RWE) for Off-Axis Parabolic Mirrors

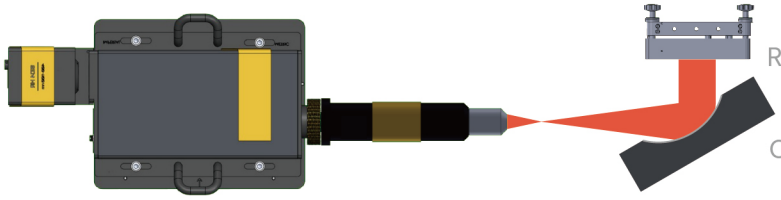
REFERENCE SETUP



Reference Concave Mirror

Phasics WFS | Illumination Module | Focusing System

MEASUREMENT SETUP



Reference Flat Mirror

Off-Axis Parabola Under Test

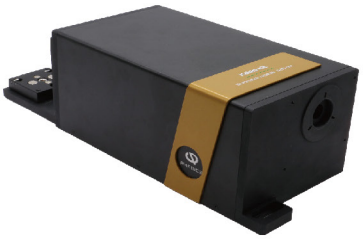
Phasics WFS | Illumination Module | Focusing System

... IN JUST 3 EASY STEPS

01 Choose Your Wavefront Sensor

SID4 model	Spectral Range(nm)	Sampling(px)
SID4 UV	190-400	300x300
SID4 UVHR	190-400	512x512
SID4	400-1100	182x136
SID4 HR	400-1100	416x360
SID4 UHR	400-1100	512x512
SID4 SWIR	900-1700	80x64
SID4 SWIR HR	900-1700	160x128
SID4 DWIR	3 - 5 µm / 8 - 14 µm	160x120

02 Select Your Illumination Module



Wavelength(nm) *	
193	265
365	810
405	850
530	940
620	1050
740	1550
780	3400
3900	8700

03 Shape Your Beam

Beam expander exit pupil diameter(mm) *	Focusing system F# *
15	0.7
30	1.2
60	3.3
100	5
130	9

+Reference mirror (flat or sphere)

*More options upon request

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