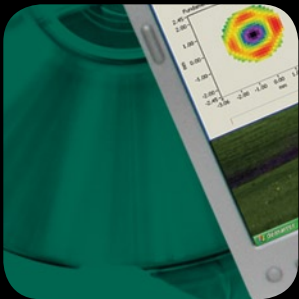
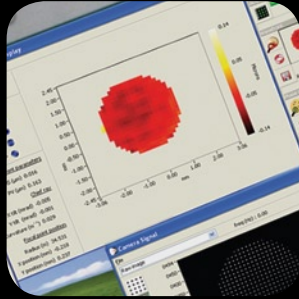
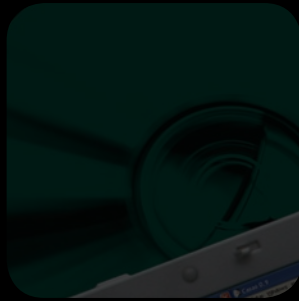


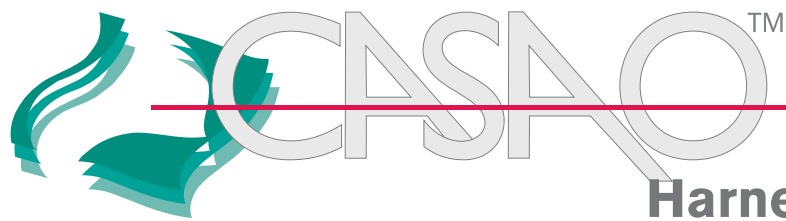


Imagine Optic's CASAO adaptive optics command and control software is the only tool you need to control your open or closed loop system. Features include:

- control wavefront acquisition
- define target wavefront formation
- measure the interaction matrix
- calculate the command matrix
- conduct hardware diagnostic
- improve installation safety



Imagine Optic™



Harness the full power of your adaptive optics system

CASAO is a unique application that seamlessly combines wavefront measurement and correction features with extensive instrument diagnostics to provide users with an ergonomic adaptive optics PC workspace. Perfectly adapted to Imagine Optic's HASO™ family of wavefront sensors as well as a wide variety of active components including deformable mirrors, MEMS and SLMs, CASAO is the only software tool that you need to get the most out of your open or closed-loop system.

Perfect loop control for imperfect wavefronts

Whether you're an established expert in adaptive optics or just getting started, you'll be up and running quickly thanks to CASAO's user-friendly, feature rich environment.



Once again Imagine Optic leads the industry by providing newcomers to adaptive optics with a unique, hands-on tutorial mode that guides users step by step through measurement, correction and diagnostics. Experienced users can choose between standard and automatic modes that put the ensemble of CASAO's features at your disposal right away.

From sensor configuration to acquisition and on to determining correction, a few clicks are all it takes to get underway. Key measurement and correction features include:

- Variable user modes
 - Tutorial – guides you through each step and advises you when there are special precautions to be taken
 - Automatic – ideal for large installations that follow established protocols, this mode allows you to define and automate repetitive tasks
 - Standard – in this mode, all of CASAO's features are available. The standard mode also provides access to the “Fast” mode.
- Wavefront analyzer hardware control including integration time, trigger mode, averaging
- Wavefront measurement
- Target wavefront formation – set tilt, curve and high-frequency aberrations independently using actual measurements or theoretical values using Zernike polynomials
- Measure the functional influence matrix (also called interaction matrix)
- Calculate the command matrix and modify filtering modes
- Open and closed-loop wavefront correction
- Add command – enables users to modify the target wavefront in real-time using Zernike polynomials to induce or correct for aberrations, either by manual intervention or over a network connection (localhost or Ethernet)
- Client-server interaction with HASOv3 software – enables users to take advantage of HASOv3's advanced wavefront analysis features

Understanding your wavefront

CASAO's wavefront and instrument diagnostics enable you to better understand and use the information you acquire by providing detailed information on its nature. Key diagnostic features include:

- Wavefront sensor diagnostics
 - Multiple views including raw measured wavefront, residual vs. target wavefront, and residual vs. target wavefront following the modifications applied using the “Add command” feature
 - HASOv3 interaction – used in client-server mode with HASOv3, you can perform advanced wavefront diagnostics including Zonal reconstruction, create Zernike or Legendre polynomials, view the spot diagram, and calculate the PSF, MTF, M² and Strehl ratio
- Active component diagnostics
 - Display mirror actuator states, applied voltages and 3D mirror form
 - Show individual actuator influence on the interaction matrix
 - Choose filtering modes by previewing changes and associated applied voltages to actuators
- Camera diagnostics enable you to display the raw camera image



Making your installation safer

Only CASAO offers the security features that can play an important role in making your facility safer, most notably in high-power laser installations. The result of 10 years of working closely with customers to understand their needs, these features protect valuable laser facility equipment.

CASAO acts to detect and inform you of both suspicious events and parasite signals that can interfere with measurement. Once the software detects a potential problem, it acts immediately on the active component's command electronics to avoid erroneous or impertinent commands. Depending on your needs, several levels of security are available that may help improve overall safety.



For more information, please call us on +33 1 64 86 15 60 or visit our website at imagine-optic.com.

Imagine OpticTM

imagine-optic.com

Imagine Optic SA (main office)

18 rue Charles de Gaulle
91400 Orsay France

Telephone: +33 (0)1 64 86 15 60

Fax: +33 (0)1 64 86 15 61

E-mail: contact@imagine-optic.com

Imagine Optic, Inc. (North America)

Cambridge Innovation Center
One Broadway, 14th floor

Cambridge, MA 02142, USA

Telephone: 1-617-401-2198

Fax: 1-617-930-9818

2415 Third Street

San Francisco, CA 94107

Telephone: 1-415-525-5557

Fax: 1-415-525-5558

E-mail: contact_us@imagine-optic.com

COSINGO (Imagine Optic Spain SL)

Mediterranean Technology Park

Av. del Canal Olímpic s/n

08860 Castelldefels (Barcelona) Spain

Telephone: +34 935 534 148

Fax: +34 935 534 000

E-mail: info@cosingo.com

