



Iterative-Transform Phase-Retrieval Utilizing Adaptive Diversity

Description

This software is a comprehensive suite of wavefront sensing and optical control tools designed to measure the wavefront and control the optical systems in order to correct for distortion. It combines phase retrieval and phase diversity algorithms with a variety of control strategies. This software will perform these operations for filled aperture telescopes, segmented aperture telescopes, sparse aperture telescopes and interferometric systems.

Features and Benefits

- This algorithm combines iterative-transform and parametric phase recovery techniques to allow for both high-spatial frequency and high dynamic range wavefront sensing.
- Wavefront calculations occur in the software, making the expensive hardware used in interferometry unnecessary.

Applications

- Interferometry
- Astronomy
- Quality Testing of Cameras and Optical Systems
- Mirror Surface Testing
- Laser Beam Output Verification

For More Information

If you are interested in more information or want to pursue transfer of this technology, GSC-14879-1, please contact:

Enidia Santiago-Arce
Innovative Partnerships Program Office
NASA Goddard Space Flight Center
enidia.santiago-arce-1@nasa.gov
(301)-286-8497

To view Goddard's entire portfolio of wavefront sensing technologies, please visit:
<http://ipp.gsfc.nasa.gov/wavefront>

wavefront sensing portfolio