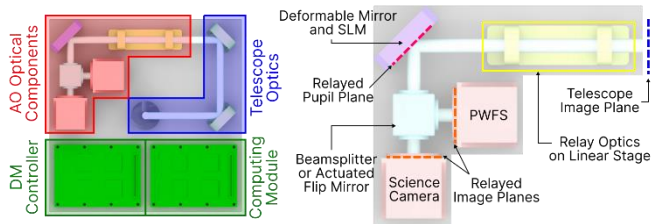
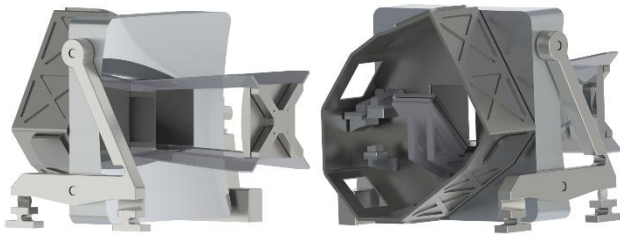




MODULAR ADAPTIVE OPTICS FOR LOW-SWAP SYSTEMS

BETTER IMAGING PERFORMANCE AT A FRACTION OF THE COST AND LEAD-TIME

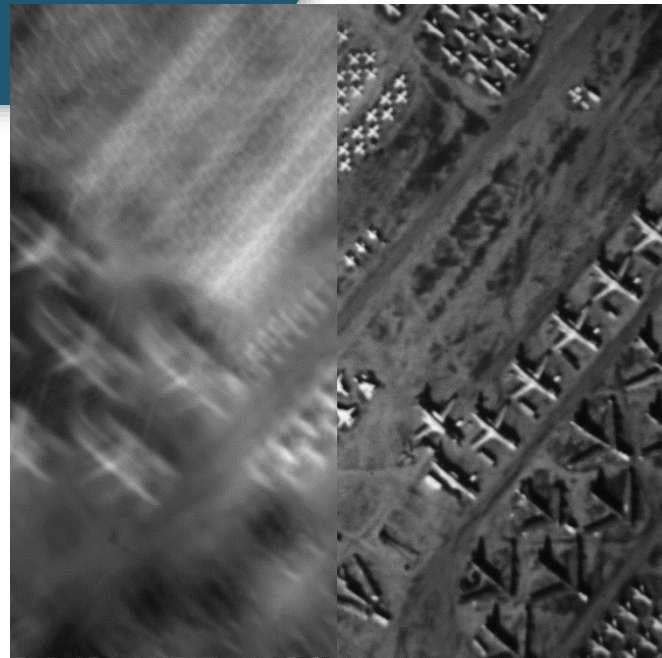
Nanohmics is developing a low-cost adaptive optics system with initial applications in CubeSat telescopes based on passive wavefront sensors and deformable mirrors. The technology is designed to improve imaging performance and enable the use of low-cost, short lead-time components.



Concept CubeSat telescope with modular AO system

APPLICATIONS

- Space and airborne remote sensing
- Intelligence, surveillance and reconnaissance
- Environmental studies
- Industrial emissions monitoring
- Oil and gas exploration
- Agriculture and forestry
- Free space optical communication



Aberrated, infinity-projected imagery (left) corrected by laboratory breadboard AO system (right)

CAPABILITIES

- Modular, low-SWaP+C approach to active correction of optical aberrations
- Ideal for correcting the aberrating effects of manufacturing imperfections and thermal transients, as well as structural changes due to launch, flight, outgassing, pose variations, and platform controls
- Less stringent tolerances \Rightarrow 10x cost and 4x lead-time reductions of imaging telescopes
- High sensitivity and high dynamic range wavefront sensing without the need of artificial or natural guide stars
- Customizable to different imaging bands and mission requirements, scalable framerates
- Applicable to SWaP-constrained space, aerial, maritime, and ground systems
- Compatible with add-on components for snapshot hyperspectral and polarimetric imaging