



bertin
alpao

ASTRONOMY

Diffraction is the limit

Astronomy and Adaptive Optics are a match made in the stars. Combining both state-of-the-art technology with the oldest science, one can no longer be imagined without the other.

Adaptive Optics enables users to take pristine images from ground-based telescopes by removing the optical aberrations introduced by the atmosphere. It allows astronomers to observe the plethora of celestial bodies existing in the Universe like no other.

SCAO
Single Conjugate
Adaptive Optics

Single guide star
Single deformable mirror
Narrow field of view
Bright and compact targets

XAO
Extreme
Adaptive Optics

Single guide star
Single high order deformable mirror
Narrow field of view
High contrast and exoplanet imaging

LTAO
Laser Tomography
Adaptive Optics

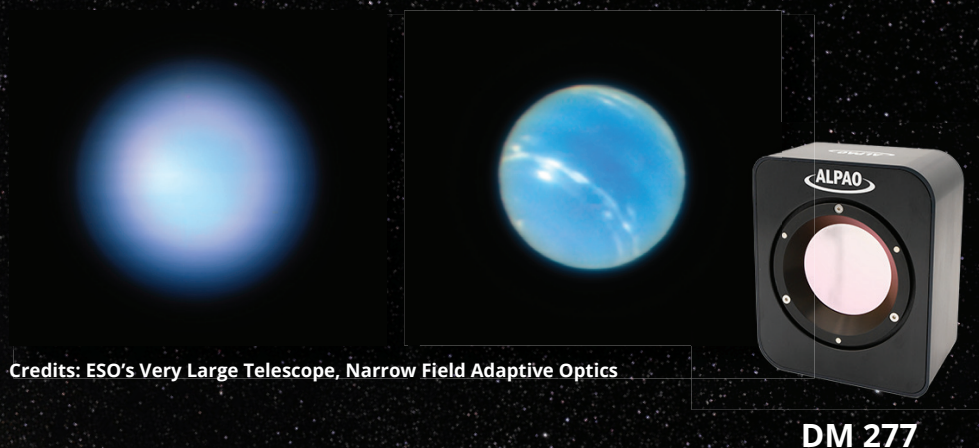
Multiple guide stars
Single deformable mirror
Narrow field of view
Faint object imaging

MCAO
Multi-Conjugate
Adaptive Optics

Multiple guide stars
Multiple deformable mirrors
Wide field of view
Faint object imaging

“By using Adaptive Optics, the sharpness of the images obtained when observing objects through the atmosphere can be greatly improved. Associated to the new generation of extremely large telescopes, Adaptive Optics paves the way to imaging and spectral characterization of exo-planets or to the observation of objects as old as our known Universe.”

Stefan Stroebelen and Pierre-Yves Madec, Senior Adaptive Optics Scientists at ESO

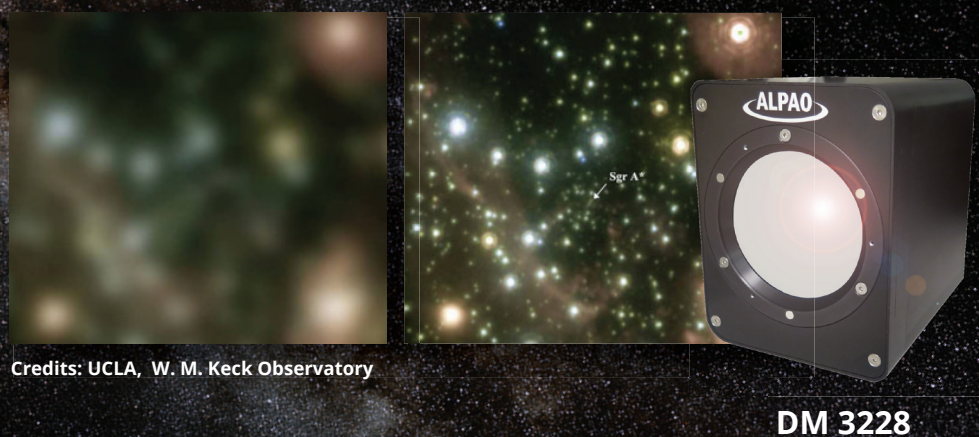


Credits: ESO's Very Large Telescope, Narrow Field Adaptive Optics

DM 277

“We use Adaptive Optics to make very fine corrections. This is called Extreme Adaptive Optics (XAO). Most of the science cases you cannot even imagine without it. We are currently working with ALPAO to bring our current systems to the next level. ”

Sam Ragland, Senior Scientist at W. M. Keck Observatory



Credits: UCLA, W. M. Keck Observatory

DM 3228

Bertin Alpa0 Astronomy related products

Deformable Mirrors

DM 192
DM 277
DM 308
DM 468
DM 820
DM 1353
DM 3228

Shack-Hartmann Wavefront Sensors

SH-EMCCD
SH InGaAs
SH-sCMOS
SH-EMCCD fast
SH-InGaAs fast
SH-sCMOS UV ext.

Software Control

ALPAO Core Engine
ALPAO RTC



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Find us also on



Credits: ESO / José Francisco