



SURES hexapod

High resolution high rigidity hexapod for astronomy



KEY FEATURES

- Payload capacity up to 500 kg
- Resolution 0.1 μm
- Low cross coupling motions
- Operational in all orientation



APPLICATIONS

- Positioning of mirror of telescope
- Radio testing
- High accuracy positioning
- Antenna qualification
- Optical adjustment



SURES hexapod positions the 450 kg secondary mirror of OAJ T250 telescope in Spain with 0.35 μm linear and 0.5 arcsec angular resolutions. The SURES hexapod for OAJ has a 920 mm diameter.



ARIES telescope is installed in Nainital in India. With a primary mirror of 3.6 m diameter, it is the largest optical centre in the country. Cross-coupling of SURES hexapod is less than 0.7 arcsec in tip-tilt during centering or focus.

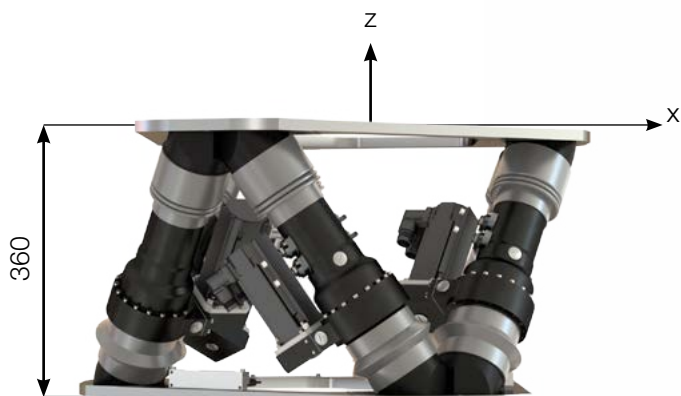


The hexapod is installed on Pan-STARRS-2 telescope at an altitude of 4267 m on Maui, Hawaii. A smaller version of SURES has been adapted as the secondary mirror is 600 mm diameter and weighs less than 110 kg.

SURES	
Motion and positioning	
Travel range Tx, Ty (mm)	± 8
Travel range Tz (mm)	± 6
Travel range Rx, Ry, Rz (°)	± 1
Resolution Tx, Ty, Tz (µm)	0.1
Resolution Rx, Ry, Rz (µrad)	1.5
Repeatability Tx, Ty (µm)	± 0.5
Repeatability Tz (µm)	± 0.25
Repeatability Rx, Ry, Rz (µrad)	± 1
Mechanical properties	
Payload capacity (kg) (with orientation from 0° to 90°)	up to 500
Motor type	Brushless motor with absolute encoder
Miscellaneous	
Operating temperature range (°C)	-20 to + 40
Humidity level (%)	up to 100
Materials	Aluminum, steel, stainless steel
Size mobile platform (mm)	Ø 690
Height in middle position (mm)	360
Mass (kg)	117
Cable length (m)	10 (longer on request)
Options	Customized platform design Modular external diameter
Controller	
Controller type	ALPHA custom
Interface	Ethernet, USB
Power supply	120-240 VAC / 50-60 Hz

Datasheet subject to change without notice. All data are superseded by any new release. R180206

The performances are specified for single axis motions, with all other axes at midrange and for a rotation center in the middle of the mobile platform.



Hexapod in middle position

