



Guiding System for the GRAVITY Instrument

By Daniela Penka

AV Akademiker Verlag Mai 2014, 2014. Taschenbuch. Book Condition: Neu. 220x150x4 mm. This item is printed on demand - Print on Demand Neuware - GRAVITY is an adaptive optics assisted, near-infrared VLTI instrument for narrow-angle astrometry and interferometric imaging of faint objects. The instrument will interferometrically combine near-infrared light collected by the Unit Telescopes of the Very Large Telescope. The core unit is the beam combiner instrument (BCI), a big cryostat in the VLTI-laboratory which combines the 4 beams from the telescopes. There are various sub units, for example, to compensate perturbations created along the optical path between telescope and BCI. The Guiding System corrects the perturbations from the telescopes through the optical train to the BCI in field motion and pupil motion. To compensate the field motion a scattered laser light source is injected at the Star Separator below the telescope towards the BCI. There it hits the position sensitive diode (PSD) inside the Guiding Receiver. The signal from the PSD is used to control the tip/tilt piston actuators which correct the tip/tilt jitter induced by the tunnel atmosphere. For pupil motion tracking there are four Laser Guiding Boxes installed on the telescope spiders. The Acquisition Camera corrects the pupil...



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