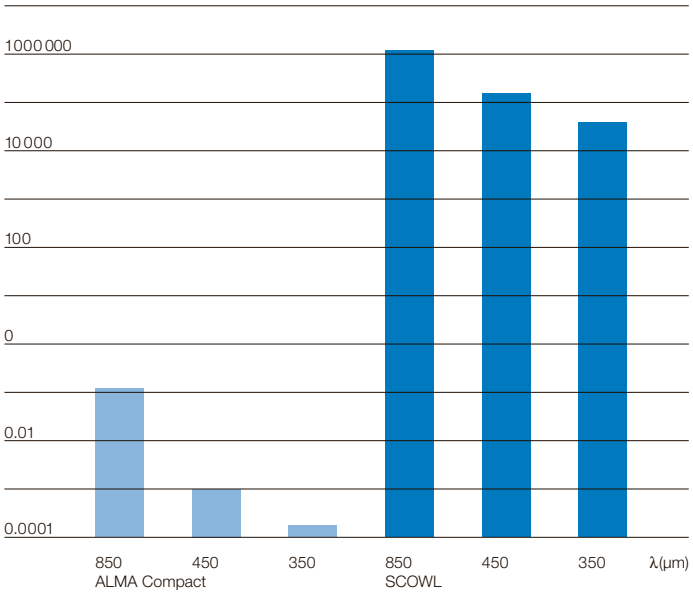

Figure 4: Relative mapping speed of SCOWL versus the ALMA Compact Configuration.

References

The OWL Instrument Concept Studies have been published as ESO internal reports. They can be obtained from the PI's or ESO.

(1) D'Odorico S., Moorwood A. F .M., Beckers, J. 1991, Journal of Optics 22, 85
(2) CODEX, Cosmic Dynamics Experiment, OWL–CSR-ESO-00000-0160, October 2005
(3) T-OWL, Thermal Infrared Imager and Spectrograph for OWL, OWL–CSR-ESO-00000-0161, October 2005
(4) QuantEYE, OWL–CSR-ESO-00000-0162, October 2005
(5) SCOWL, Submillimeter Camera for OWL; OWL–CSR-ESO-00000-0163, September 2005
(6) MOMFIS, Multi Object Multi Field IR Spectrograph, OWL–CSR-ESO-00000-0164, September 2005
(7) ONIRICA, OWL NIR Imaging Camera, OWL–CSR-ESO-00000-0165, October 2005
(8) EPICS, Earth-like Planet Imaging Camera and Spectrograph, OWL–CSR-ESO-00000-0166, October 2005
(9) HyTNIC, Hyper-Telescope Near Infrared Camera, OWL–CSR-ESO-00000-0167, October 2005

The Centre of the Active Galaxy NGC 1097

Near-infrared images of the active galaxy NGC 1097 have been obtained by a team of astronomers[1] using NACO on the VLT. Located at a distance of about 45 million light years in the southern constellation Fornax, NGC 1097 is a relatively bright, barred spiral galaxy seen face-on. It is a very moderate example of an Active Galactic Nucleus (AGN), whose emission is thought to arise from matter (gas and stars) falling into a central black hole. NGC 1097 possesses a comparatively faint nucleus only, indicating that the infall rate is small.

The new images probe with unprecedented detail the very proximity of the nucleus. The resolution achieved with the images is about 0.15 arcsecond, corresponding to about 30 light years across. The newly released NACO near-infrared images show in addition more than 300 star-forming regions, a factor four larger than previously known from Hubble Space Telescope images. These "H II regions" can be seen as white spots in the image shown here.

See ESO Press Photo 33/05 for more details.

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A colour-composite image of the central 5 500 light-years wide region of the spiral galaxy NGC 1097, obtained with NACO on the VLT. More than 300 star-forming regions – white spots in the image – are distributed along a ring of dust and gas in the image. At the centre of the ring there is a bright central source where the active galactic nucleus and its supermassive black hole are located. The image was constructed by stacking *J*- (blue), *H*- (green), and *Ks*-band (red) images. North is up and East is to the left. The field of view is 24 × 29 arcsec^2.