MOS with OSIRIS at the GTC

ING – MOS in the next decade (S/C de la Palma, 3 March 2015)

OSIRIS@GTC

First light instrument at GTC (2009).

Broad band imaging (ugriz).

Medium band imaging (SHARDs filters).

Narrow band imaging (Red and Blue Tunable Filters).

Fast imaging capabilities (fast photometry and frame transfer).

Low resolution spectroscopy (R=300, 500, 1000 and 2500) both in longslit mode and MOS.

OSIRIS MOS

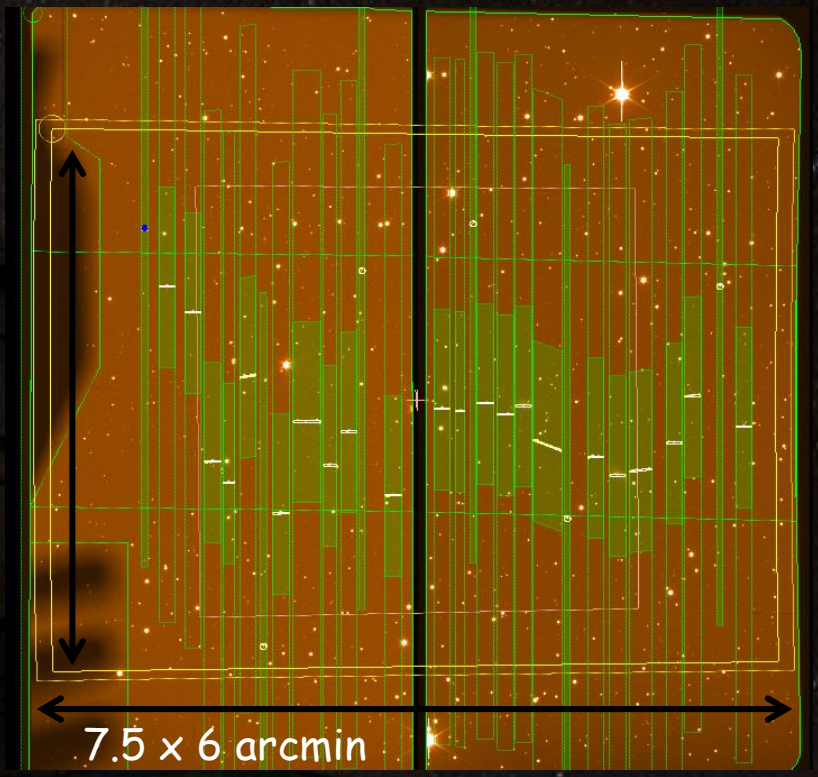
OSIRIS MOS started science exploitation in March 2014.

MOS masks can be produced either from a catalogue or preimaging (Sloan r' filter is required).

0.2" rms astrometric accuracy for MOS masks from catalogue.

Two orientations allowed: N-S / E-W, and 1.2" slit width.

To avoid useless work by the user only high ranked proposals (Q1+Q2) are included in the queue.



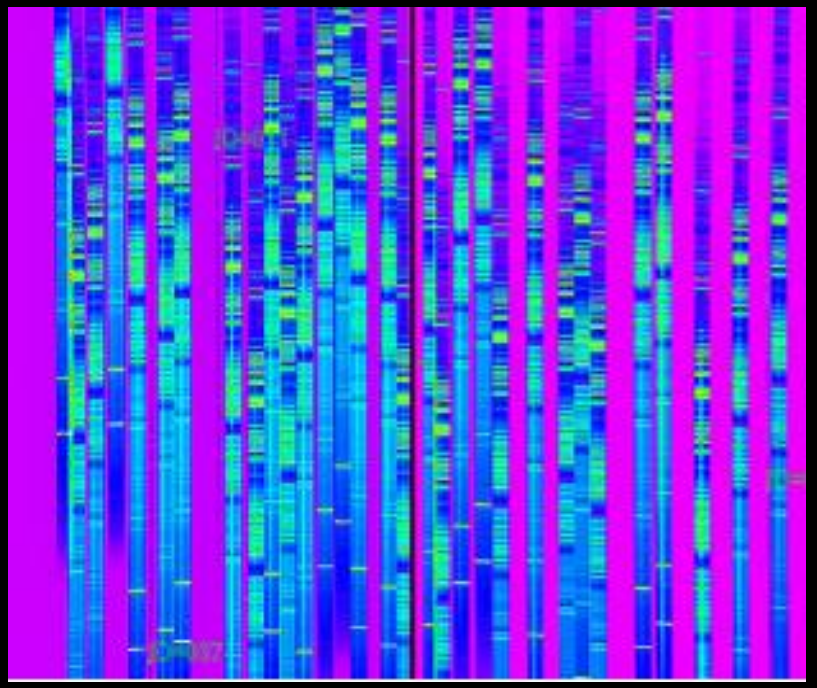
(see posters from Gómez-Velarde and García-Álvarez)

OSIRIS MOS

MOS observations really successful. More than 100 h of OSIRIS MOS data delivered along the first year, and more than 100 masks produced to date.

Good accuracy in the slit positioning both for pre-imaging and catalogue-based masks (time for producing masks, 1-2 days)

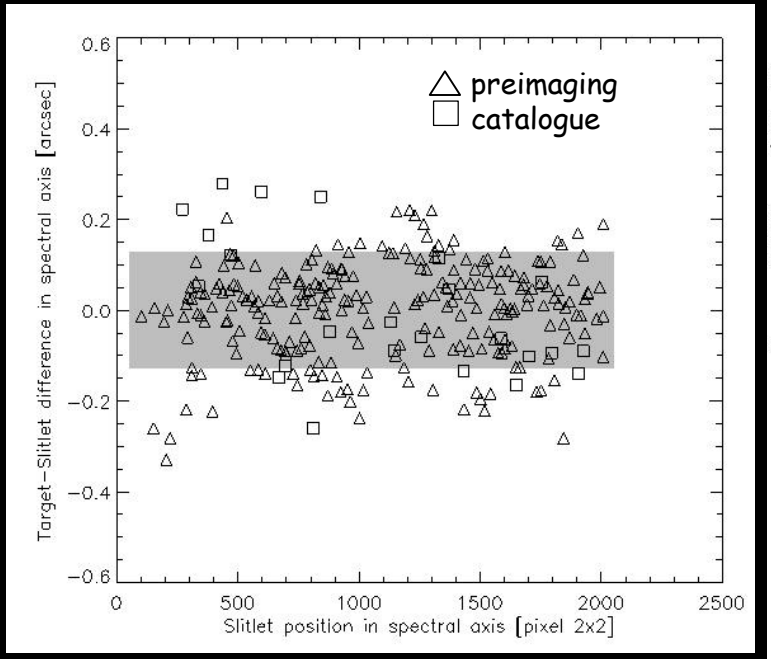
Acquisition software at the telescope very efficient.

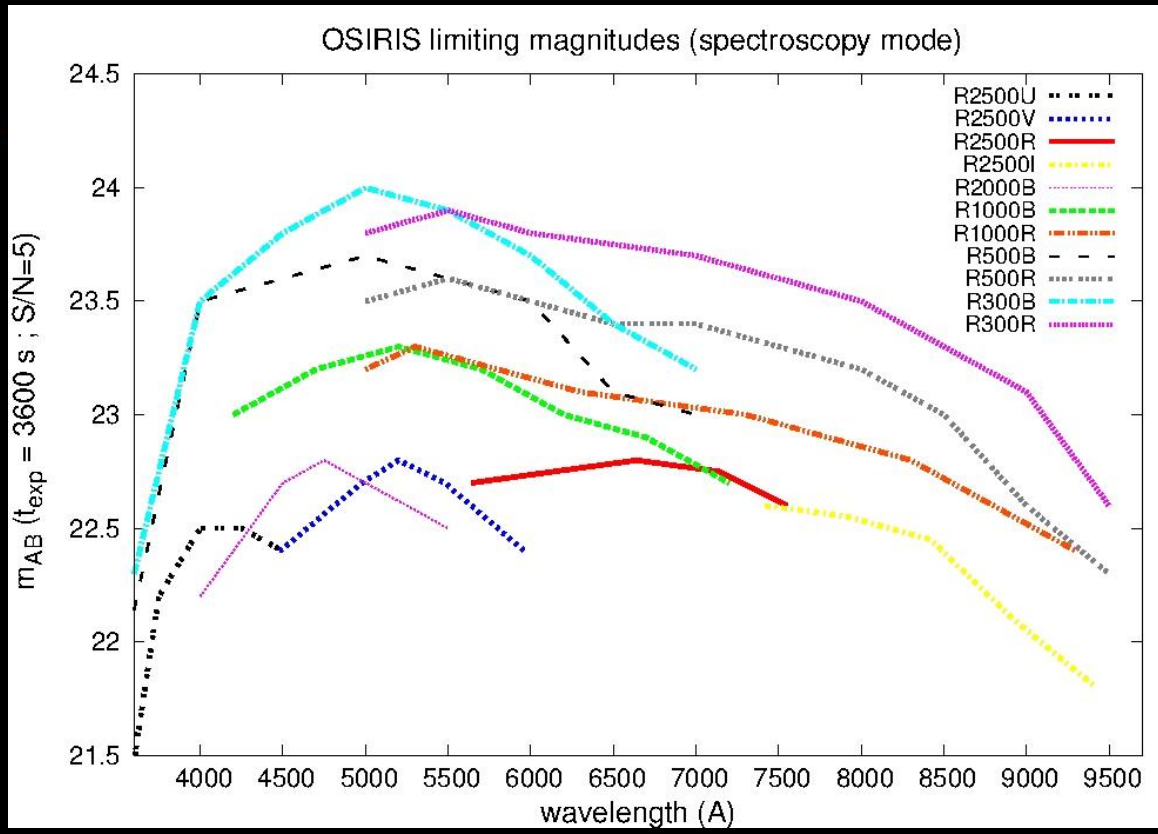


OSIRIS MOS

A wide variety of scientific topics: Galaxy Clusters, Lya emitters, HII regions, Globular Clusters, etc….

Slit positioning accuracy 0.1" rms.
(no differences based on the mask design strategy).





Next MOS capabilities at GTC

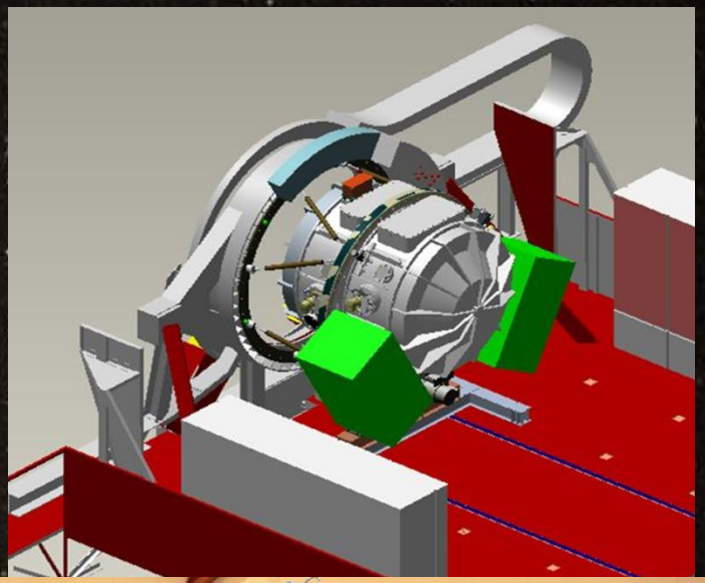
- **EMIR**

Operative in NIR range, with MOS capabilities via configurable slits, up to 55 in 6.7 x 4 arcmin.

Spectral resolution:
5000 (J),4250 (H),4000 (K)

Scheduled to be mounted at Nasmyth-A station before the end of 2015.

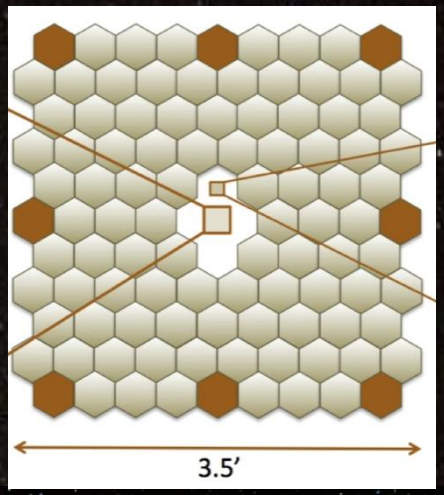
(see F. Garzon's talk)



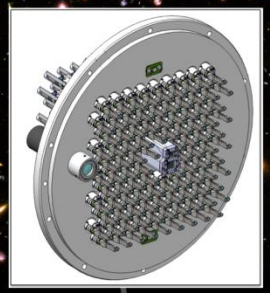
Next MOS capabilities at GTC

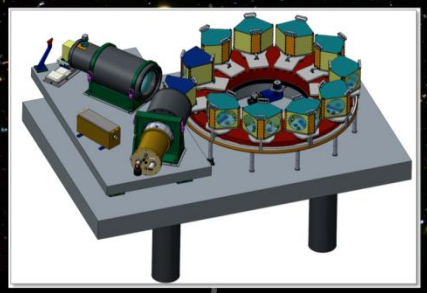
- **MEGARA**

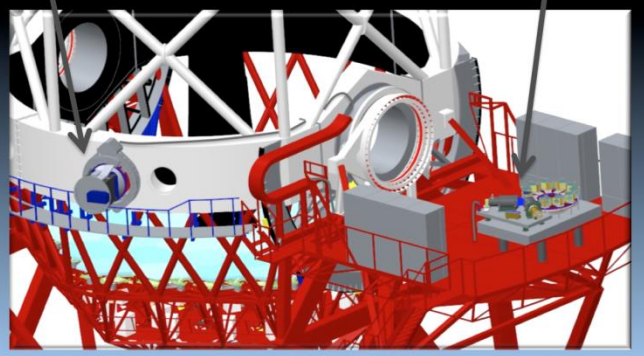
Operative in optical range. Spectrograph with 11 VPHs (out of 6LR, 10MR, 2HR), with spectral resolutions: 6000, 12000, 18700.



92 objects (7 fibers each) MOS mode,3.5 x 3.5 arcmin FOV with 0.62 arcsec spaxel size.







Scheduled to be mounted at FCass station in December 2016.

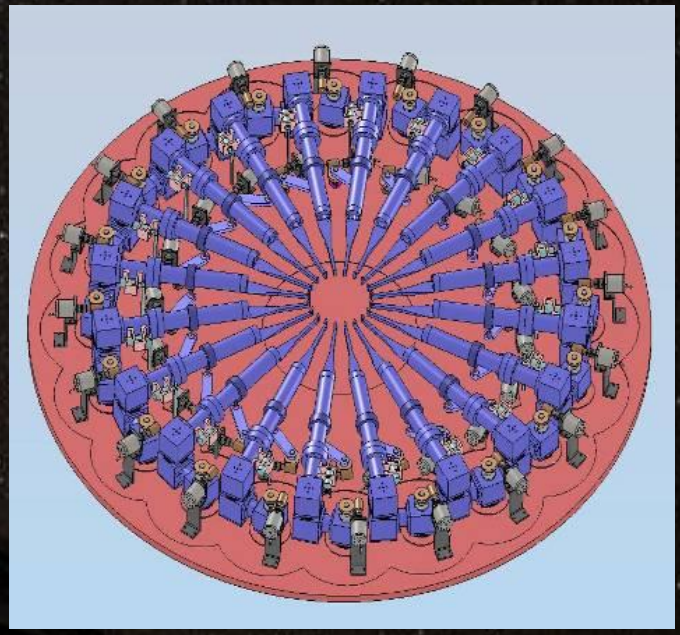
(see A. Gil de Paz's talk)

Next MOS capabilities at GTC

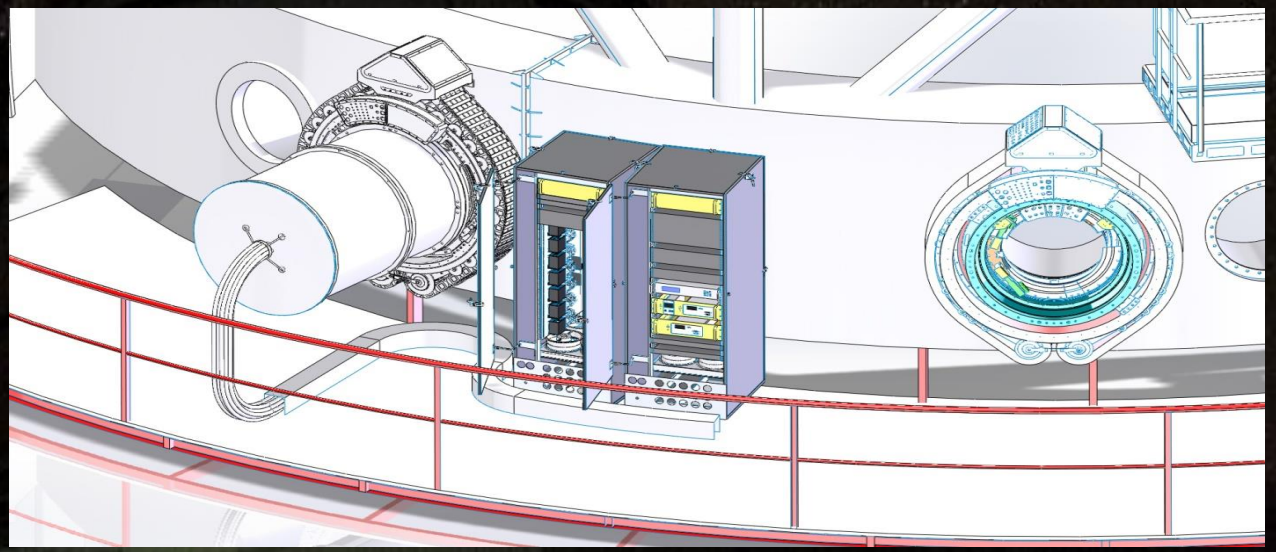
- **MIRADAS**

Operative in NIR range, with R = 20000.

FOV 5 arcmin, with a number of pickoff mirrors of 4 x 1.2 arcsec.



Installation and commissioning scheduled for mid-2019.



MOS at GTC (2016/2017)

OSIRIS
(optical)
(R<2500)

MEGARA
(optical)
(R~6000,12000,18700)

EMIR
(NIR)
(R~4000,5000)

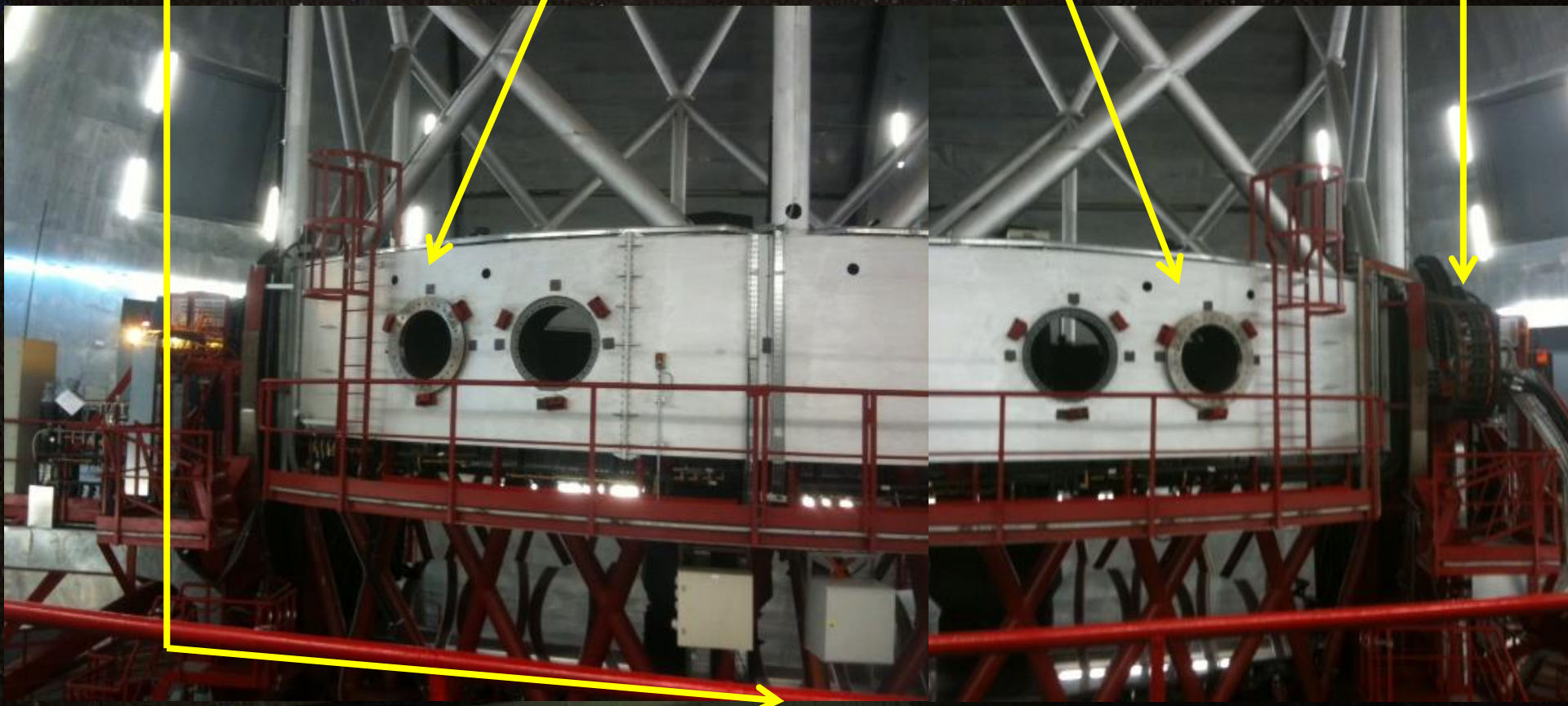
MOS at GTC (2019)

OSIRIS
(optical)
(R<2500)

MIRADAS
(NIR)
(R=20000)

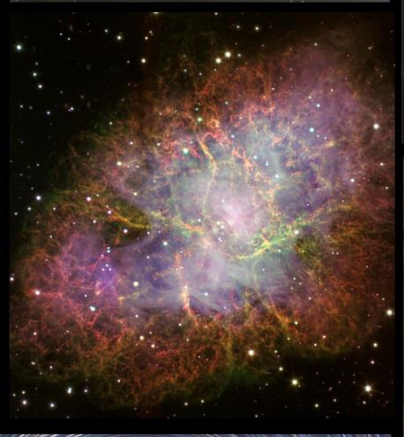
MEGARA
(optical)
(R~6000,12000,18700)

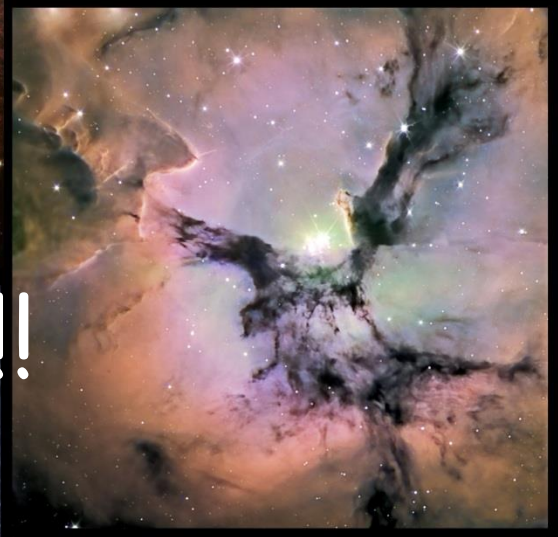
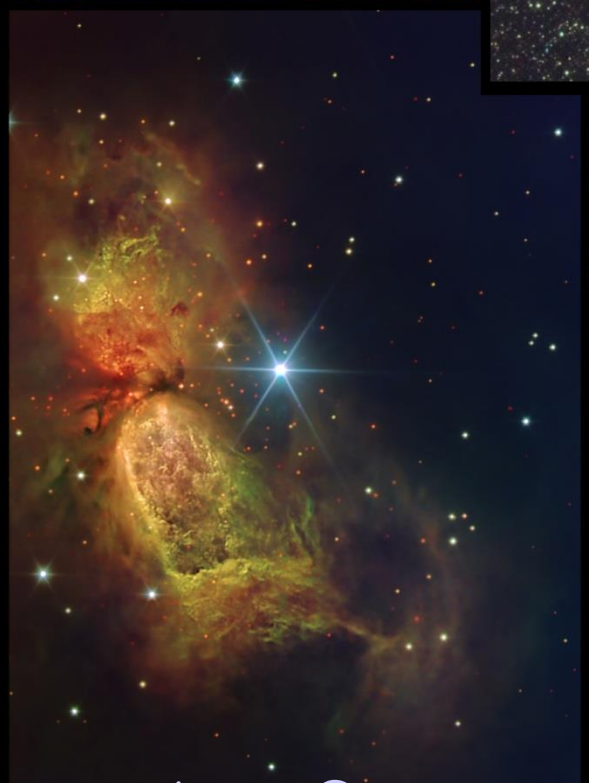
EMIR
(NIR)
(R~4000,5000)



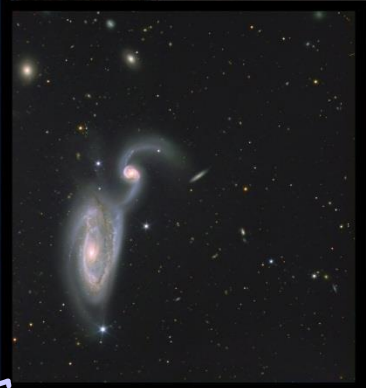
http://www.gtc.iac.es/GTChome.php



THANKS!!!!!

antonio.cabrera@gtc.iac.es