VST science verification

DATA PRODUCTS

Aniello Grado

B1 – Data products

Which kind of data products, in terms of their level of reduction and calibrations, does the data center deliver to the survey team? May range from tile images calibrated on a per-OB basis, to survey source catalog with globally calibrated astrometry and multi-band photometry.

Data products are defined in agreement with survey teams.
There are on-going meeting with all the teams to adapt as much as possible the products to the survey needs:

Example:

-VEGAS: mosaics with special care to background homogeneity
-STEP: mosaic of each exposure, epochs registered in pixels (in order to avoid double resampling) fully calibrated
-COSMOS: fully calibrated mosaic for each OB, registered in pixels. Stacked mosaic of all epochs
A continuous feedback from teams is fundamental for data process improvement

B1 – Data products

Do you combine deep and shallow observations? .

No

Are the data centers/PI planning to repeat the data processing as data sets increase or if pipeline algorithms improve?

Yes

Are the information contained in the catalogs agreed with the PIs? For instance which magnitudes are measured, within which apertures, ellipticities, FWHM, isophotal magnitudes, and their errors?

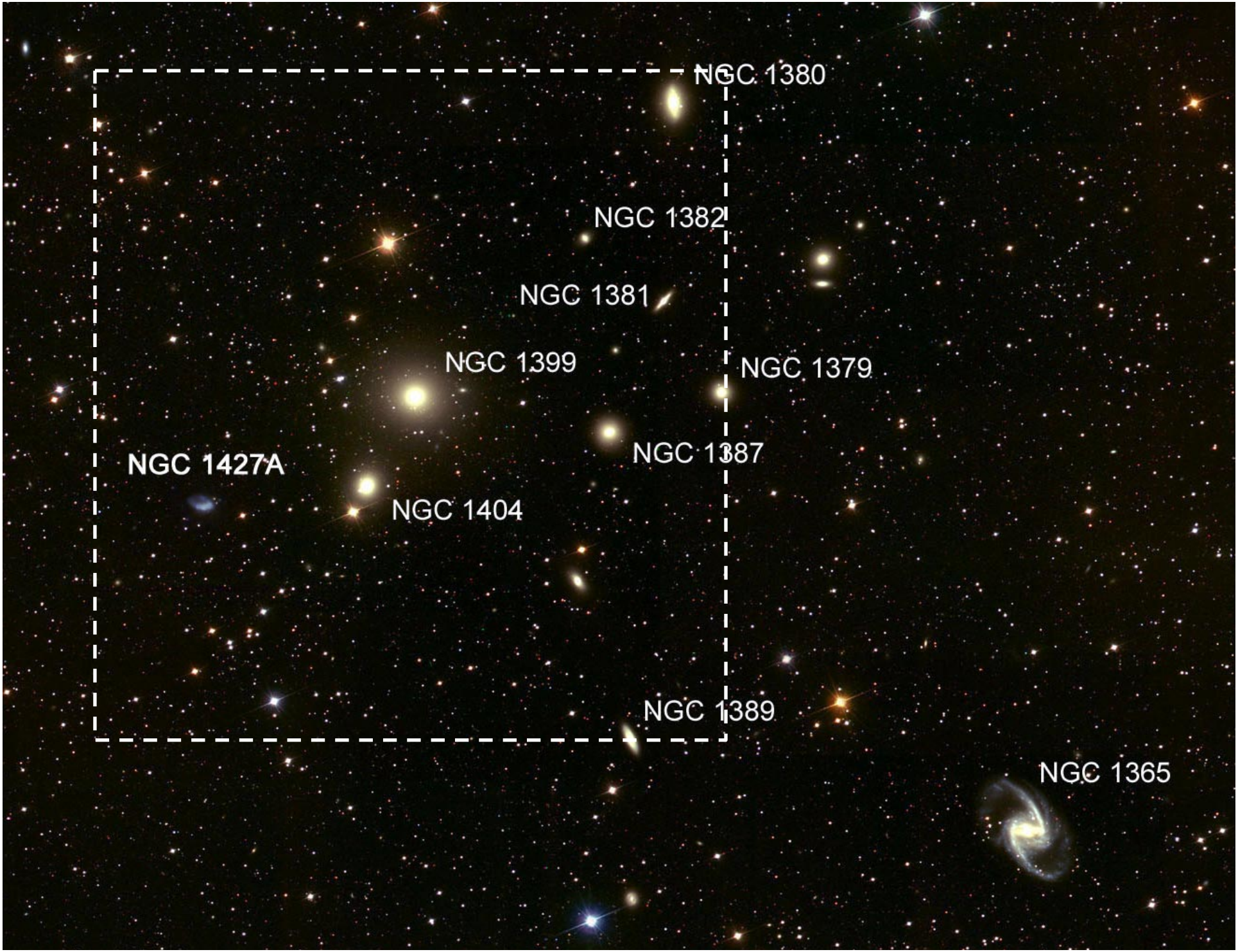
In general we do not deliver catalogs. In the case of STEP will be used the PSF photometric pipeline embedded in VST-Tube (by S. Zaggia) but under the STEP team responsibility.

If data from various filters are combined for a given source, do you search in all filters and combine afterwards or do you search in one filter and check in the other filters at the detected positions?

Preliminary results: VEGAS

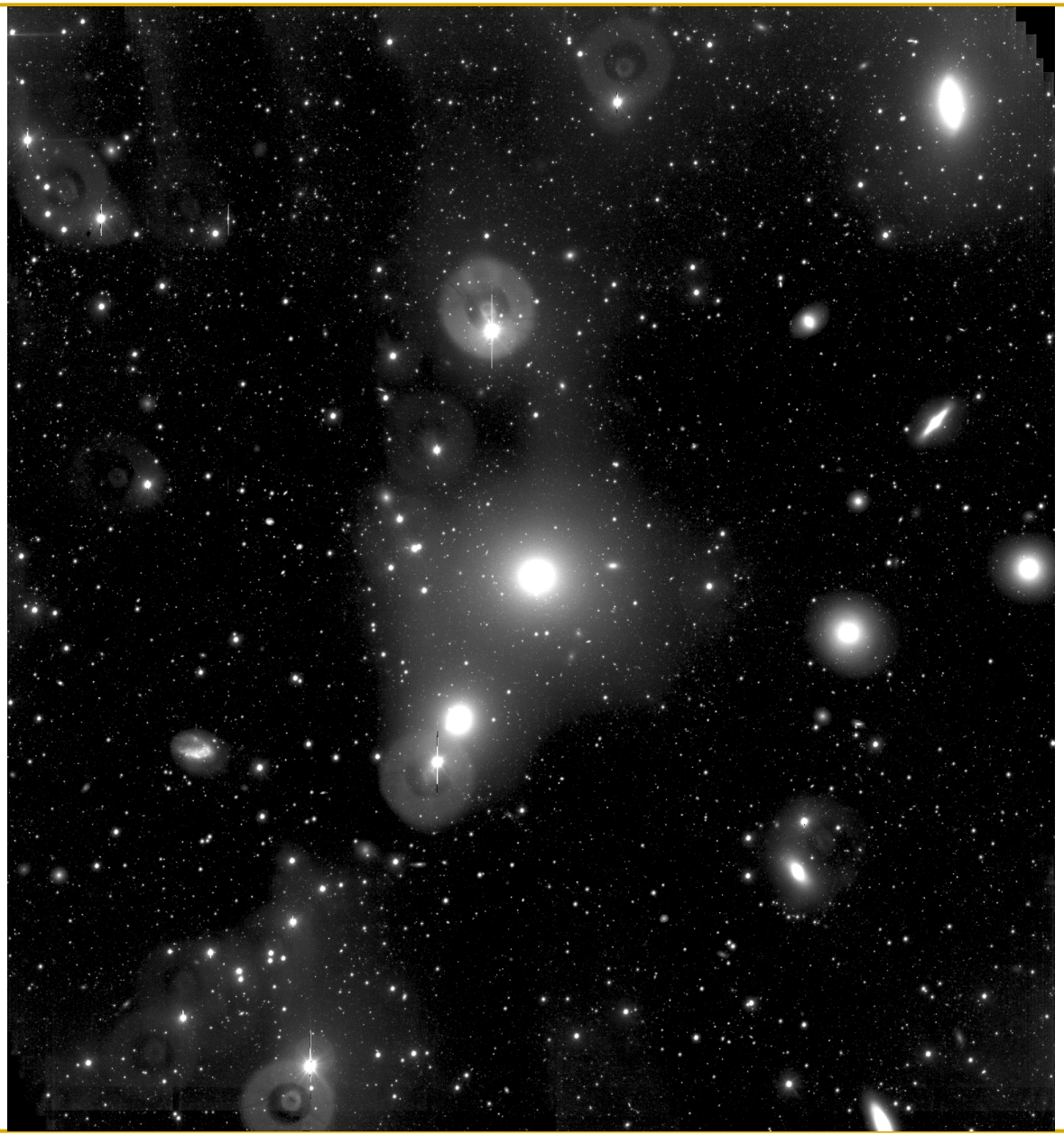
SURVEY: VEGAS
Title: VST survey of Elliptical GAlaxies in the South hemisphere (VEGAS)
PI: M. Capaccioli et al.

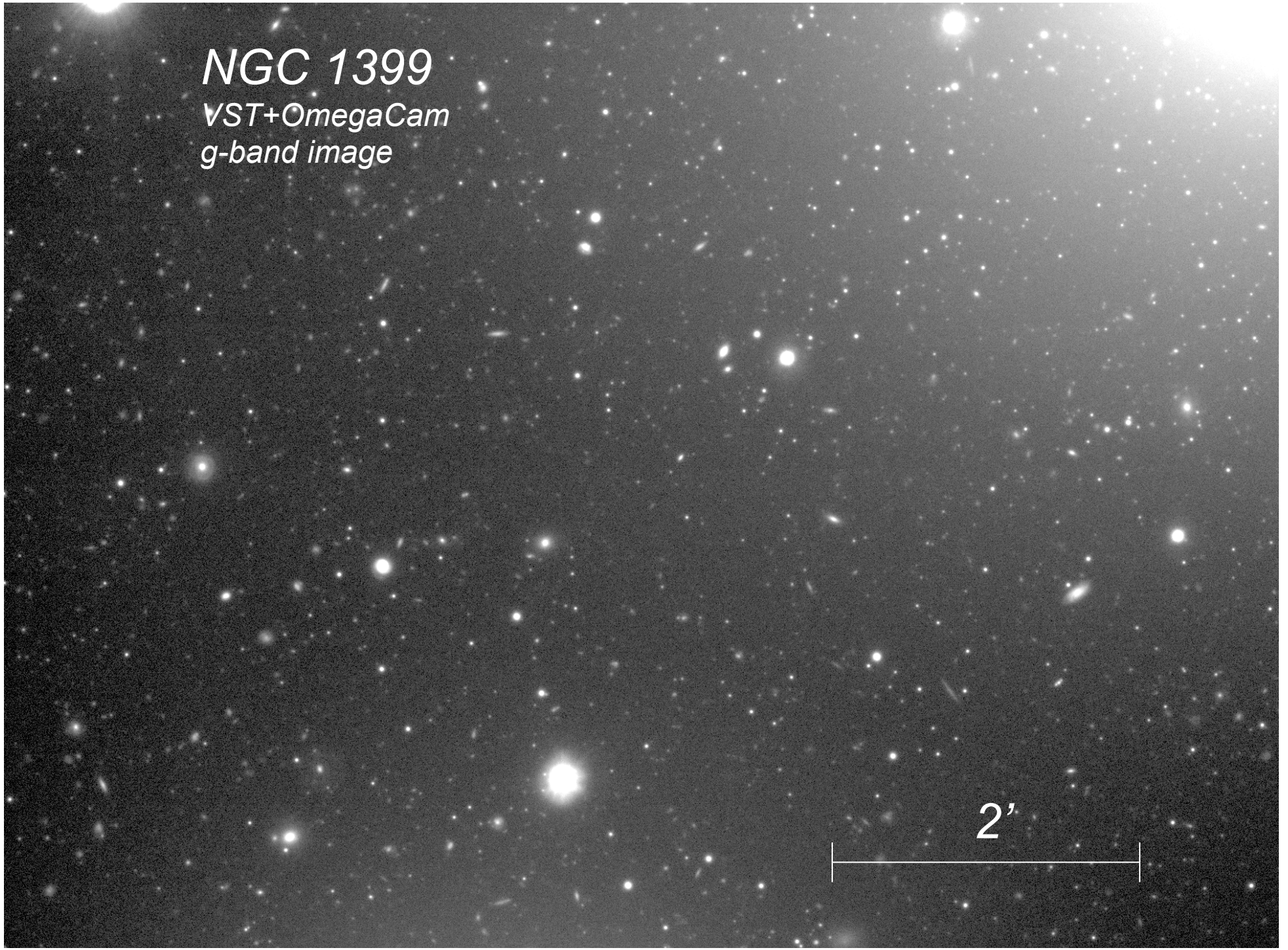
Date	*Band*	*Exp.Time [sec]*	*Av. seeing [arcsec]*
29-10-2011	g	600	*0.61*
30-10-2011	g	6000	
06-10-2011	r	2520	*0.74*
29-10-2011	r	2800	
02-10-2011	i	2700	*0.60*


NGC 1380
NGC 1382
NGC 1381
NGC 1399
NGC 1379
NGC 1387
NGC 1427A
NGC 1404
NGC 1389
NGC 1365

VEGAS

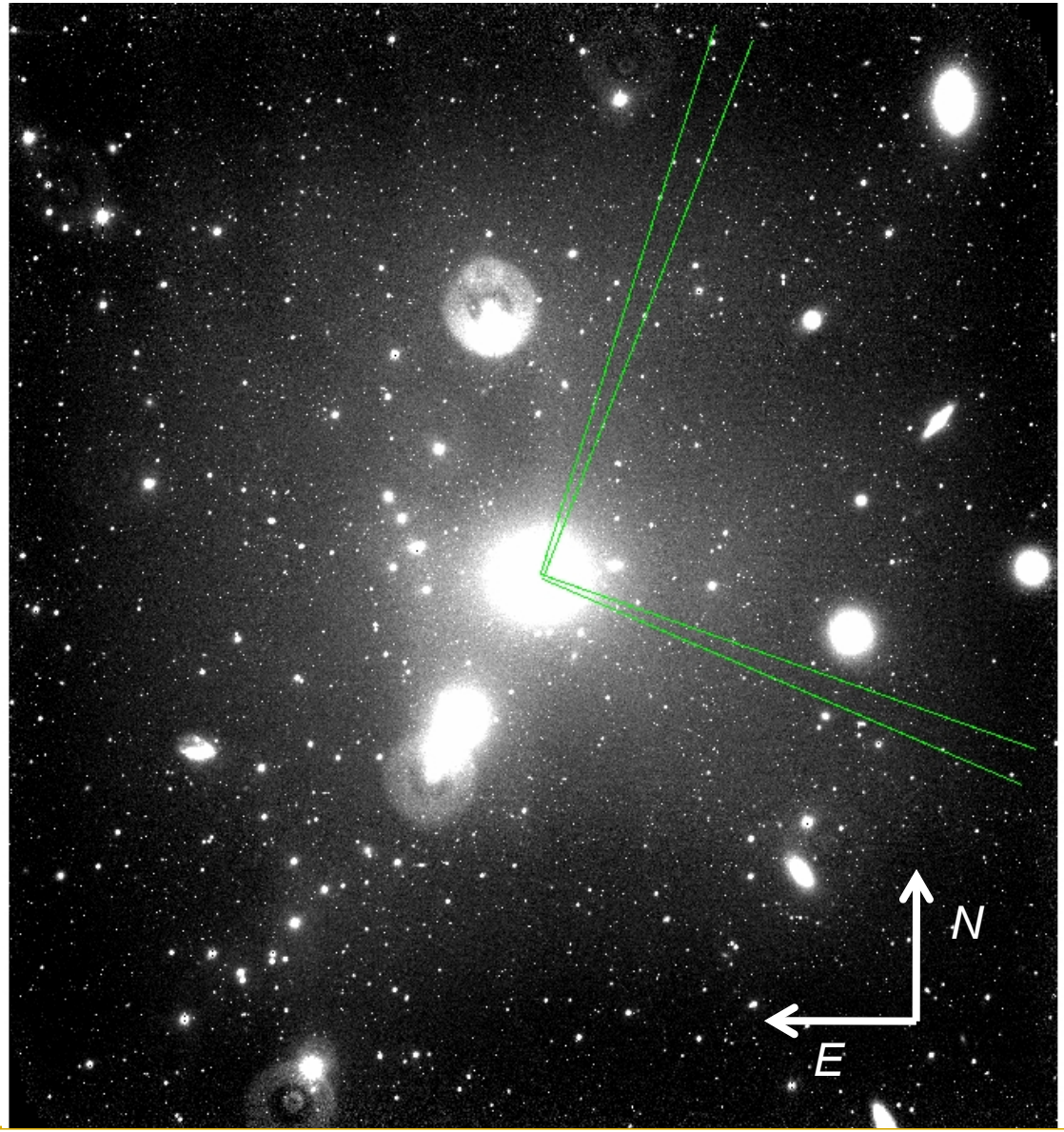
NGC1399 mosaic g band




NGC 1399
VST+OmegaCam
g-band image
2’

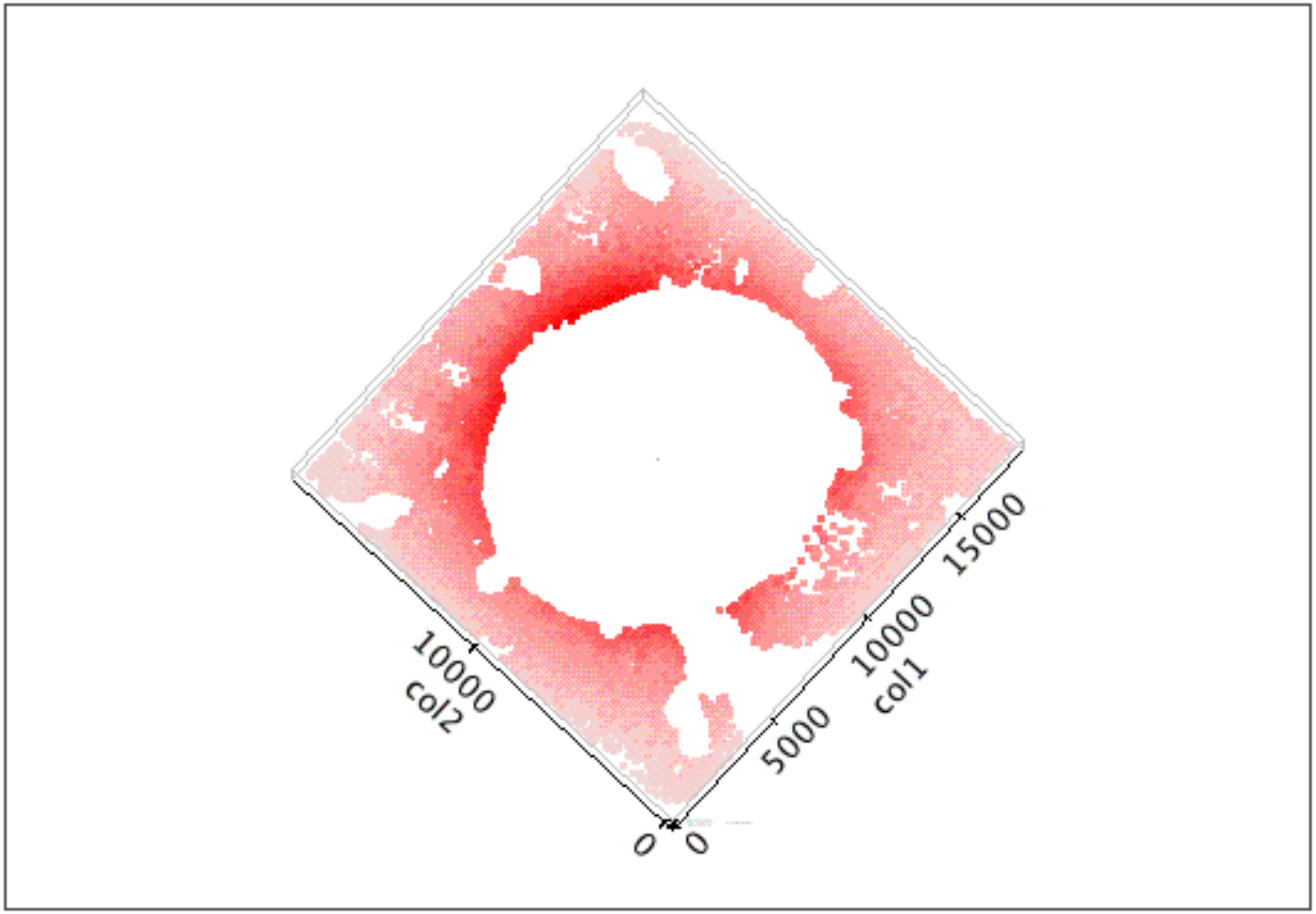
VEGAS

Surface brightness profile



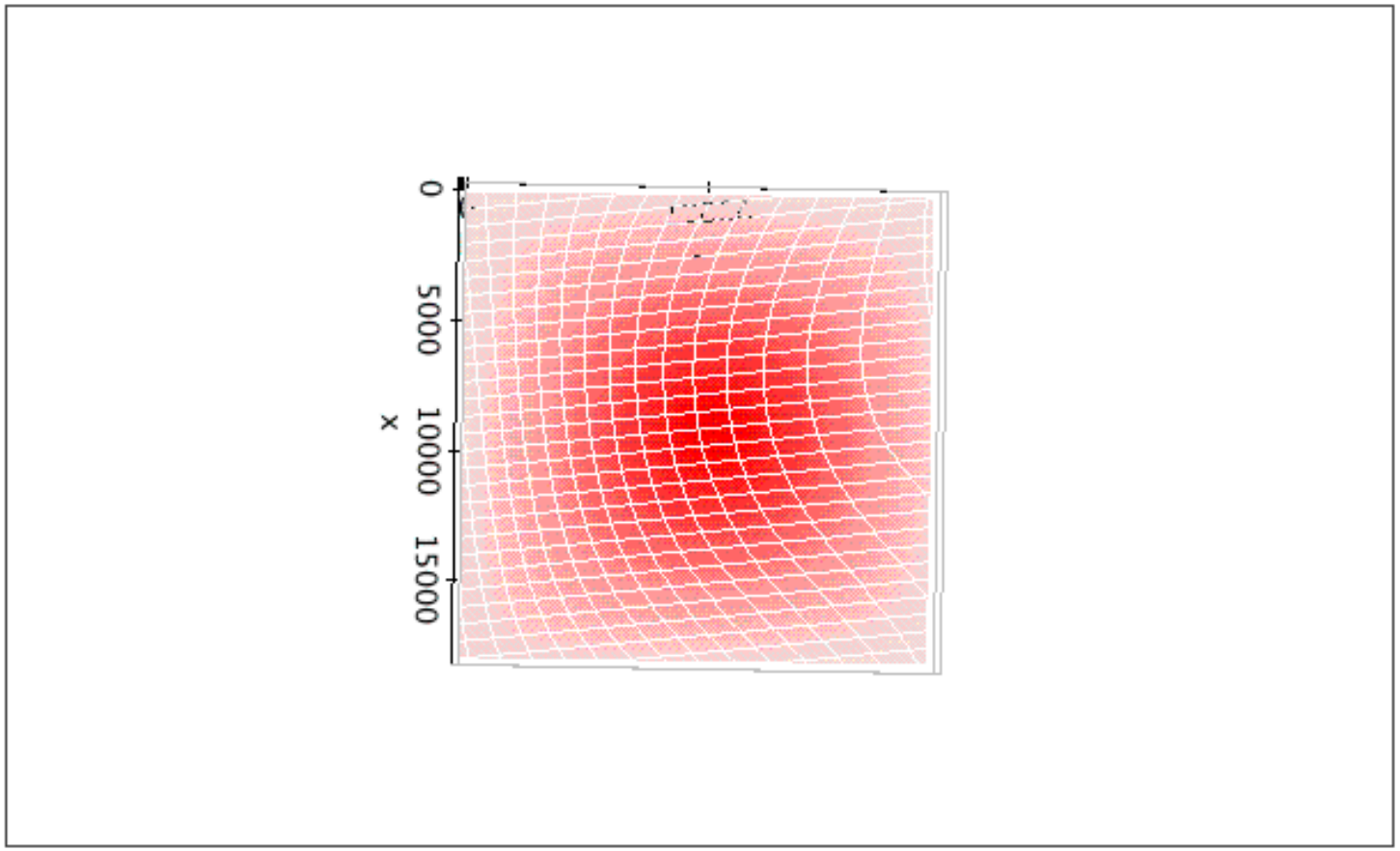
VEGAS

Background subtraction: difficult due to NGC1399 size

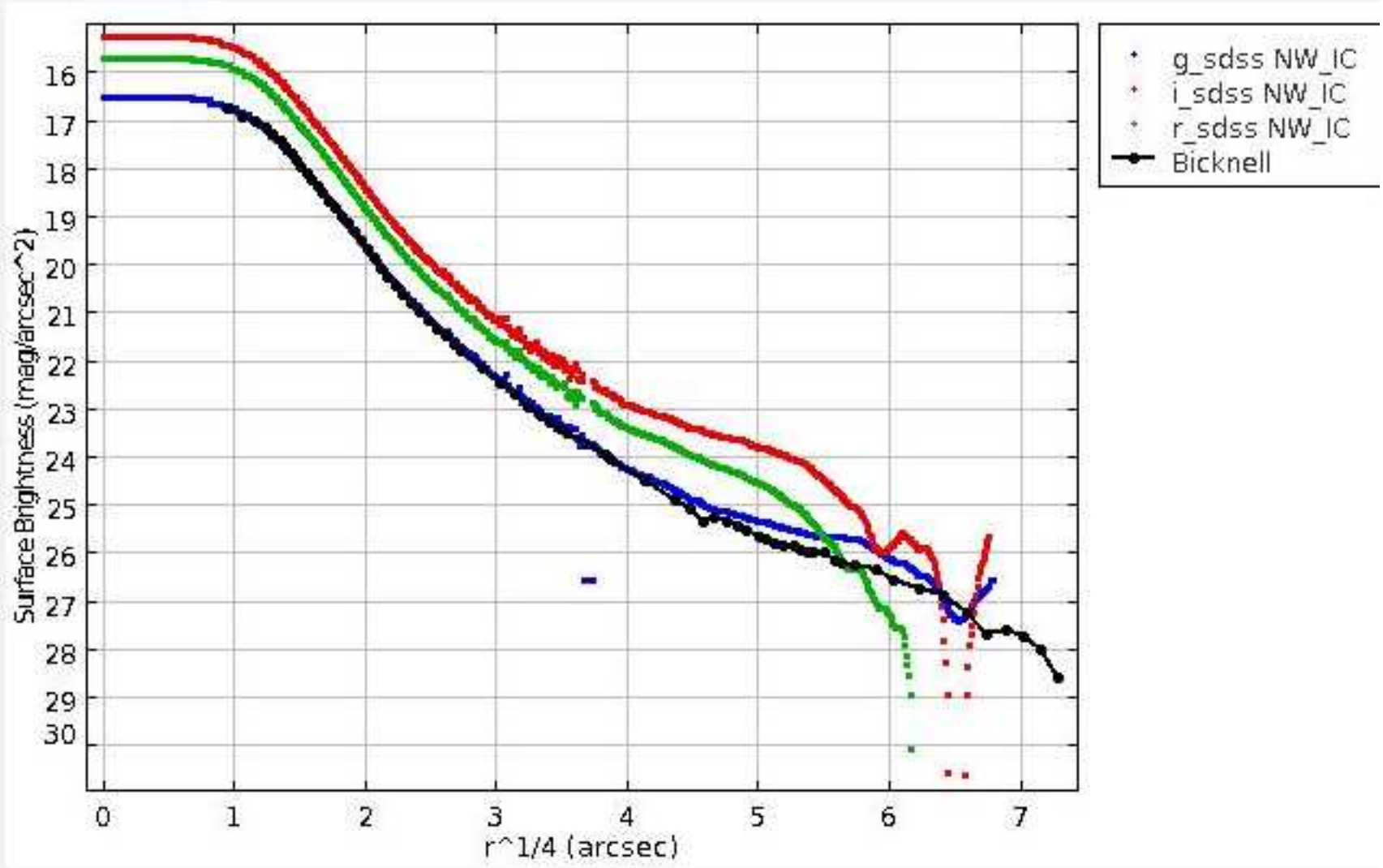


VEGAS

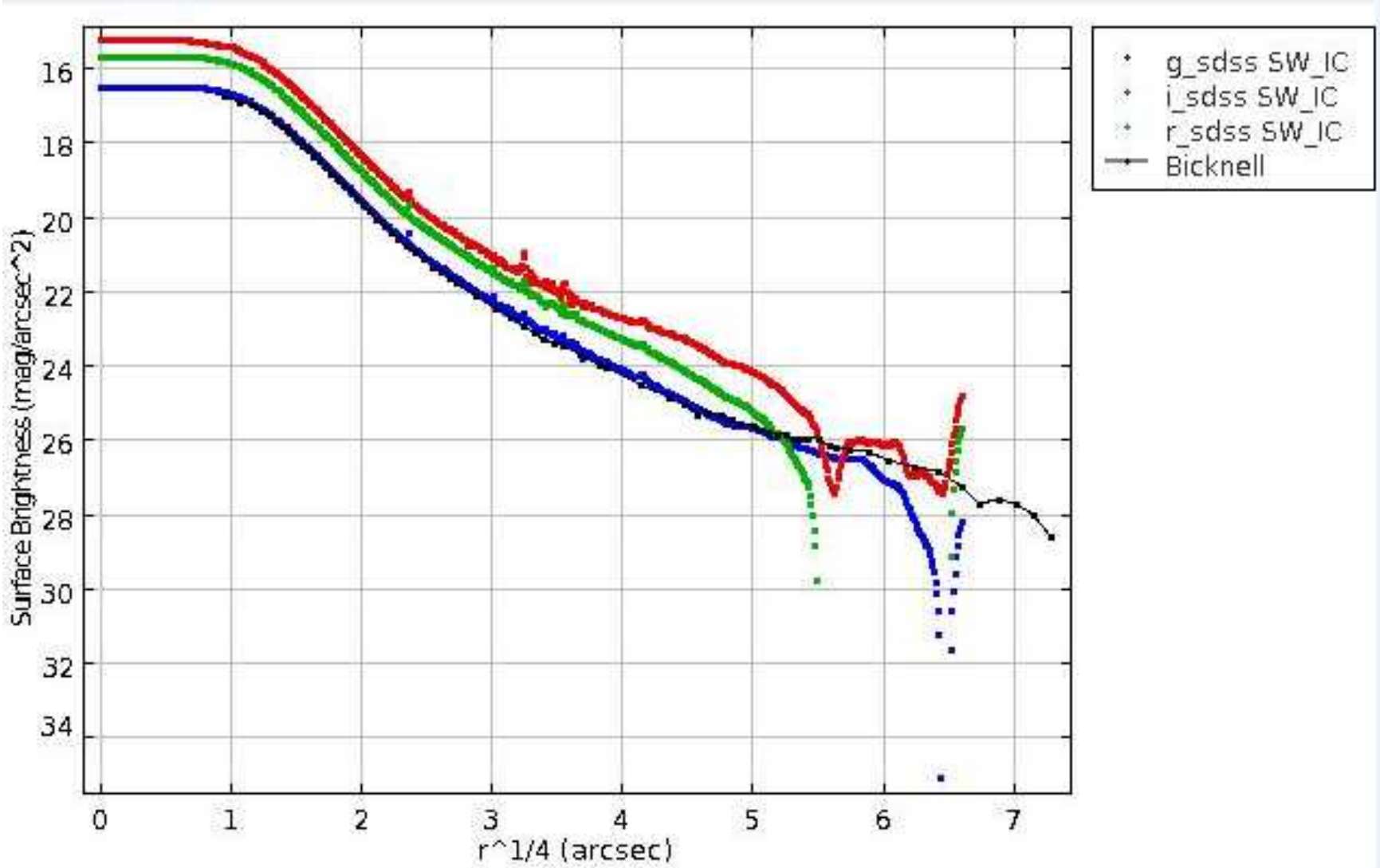
Background subtraction: difficult due to NGC1399 size



Direction NW: g, r, i profiles

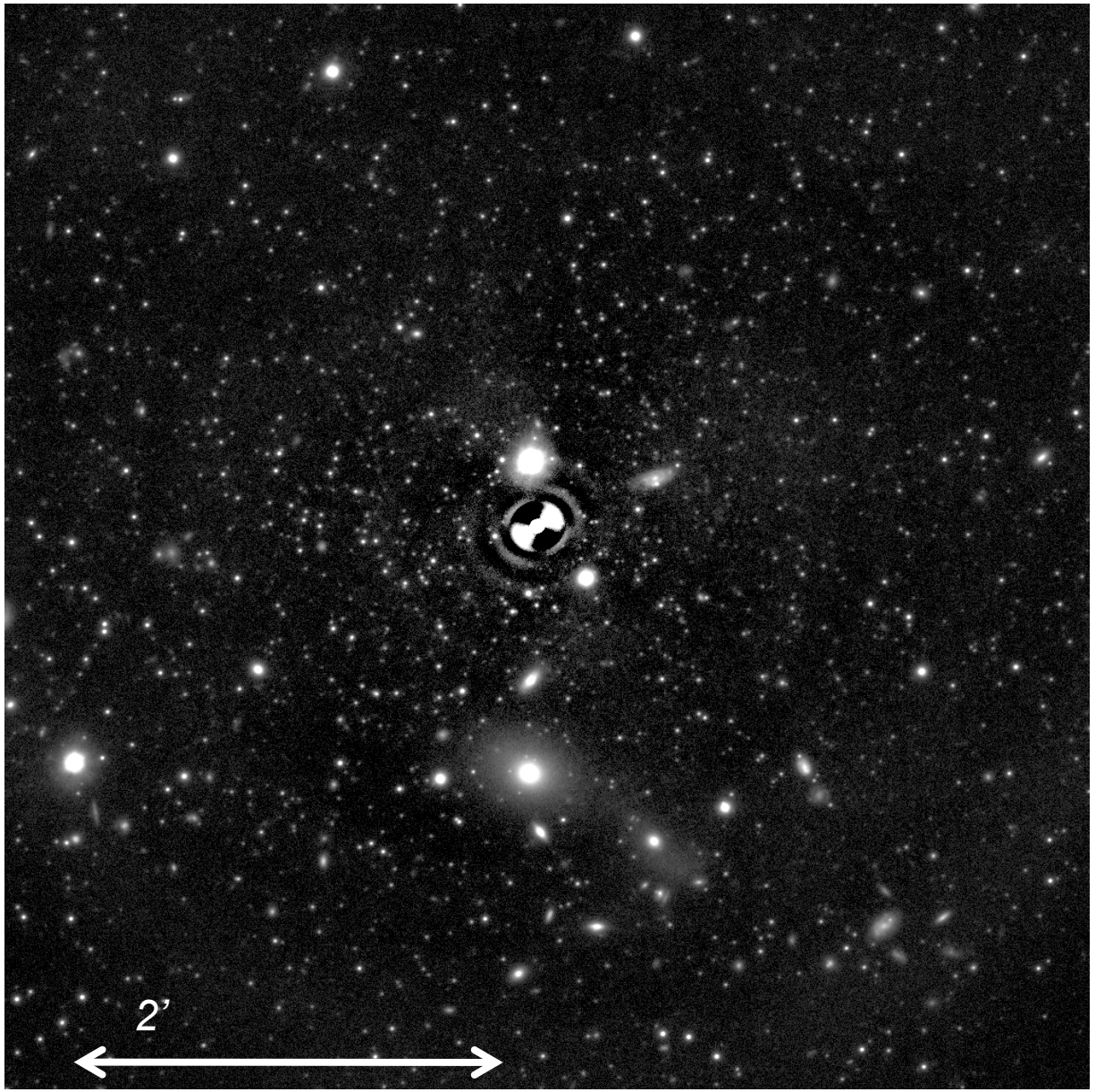


Preliminary results: VEGAS



VEGAS

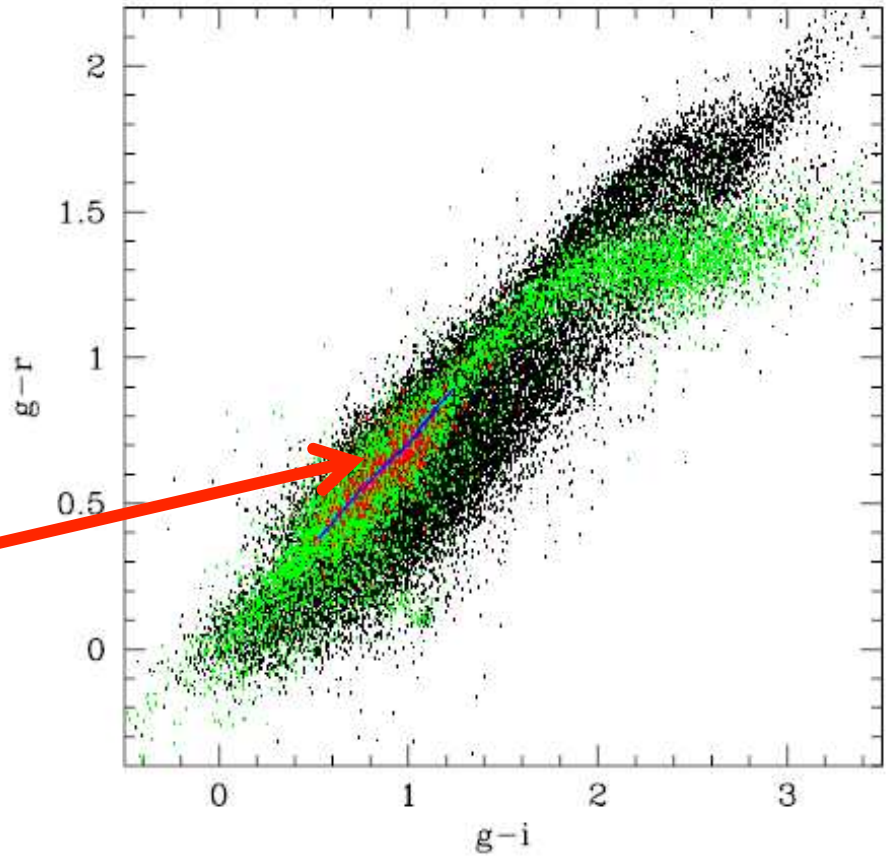
NGC1399 Globular clusters



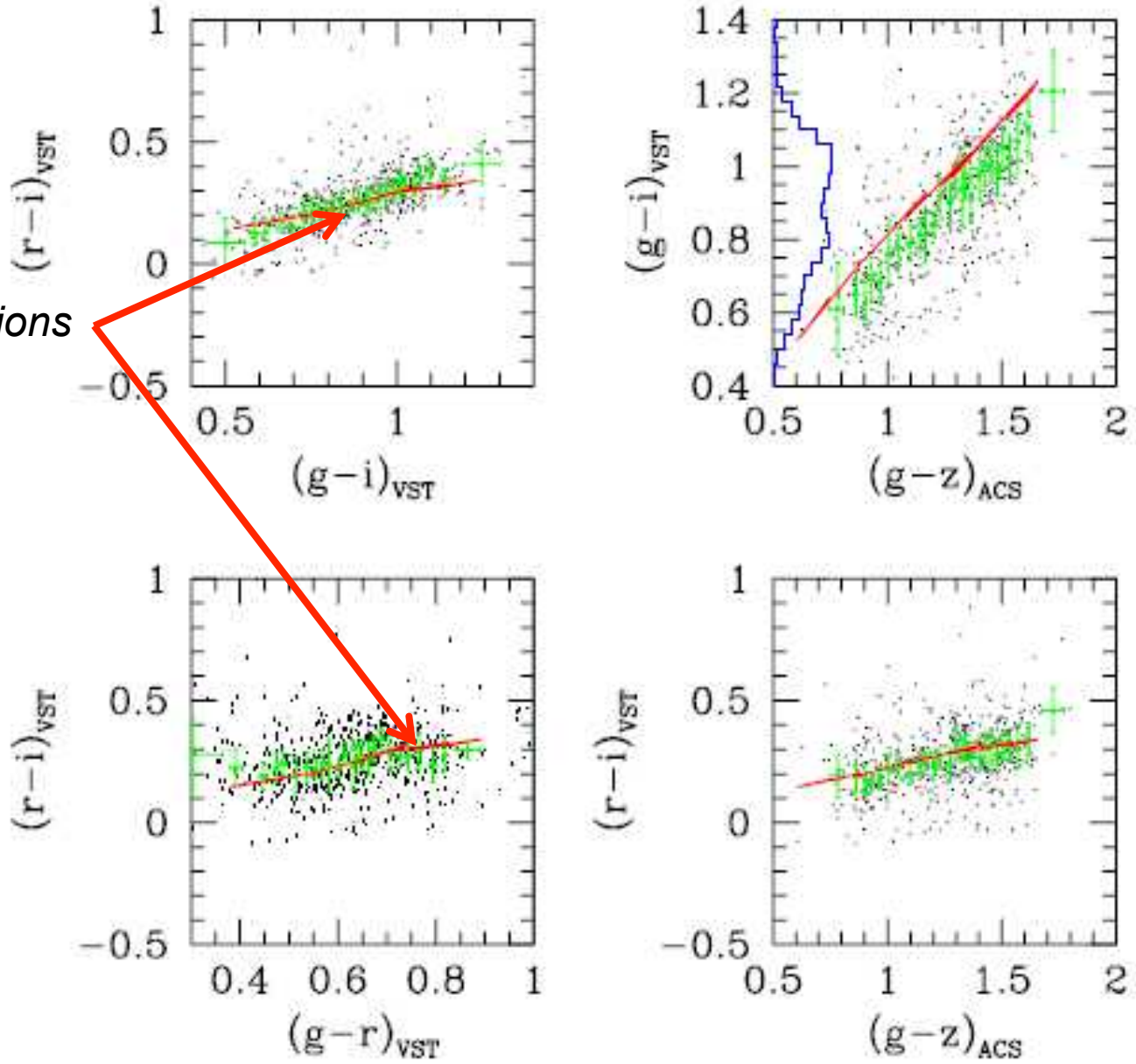
Preliminary results: VEGAS

GC candidates obtained matching the gri-bands VST catalogue with the ACS Fornax Cluster Survey (ACSFCS, Jordan et al., 2007, ApJS 169, 213) GC candidate list.

GCs matching HST-ACS

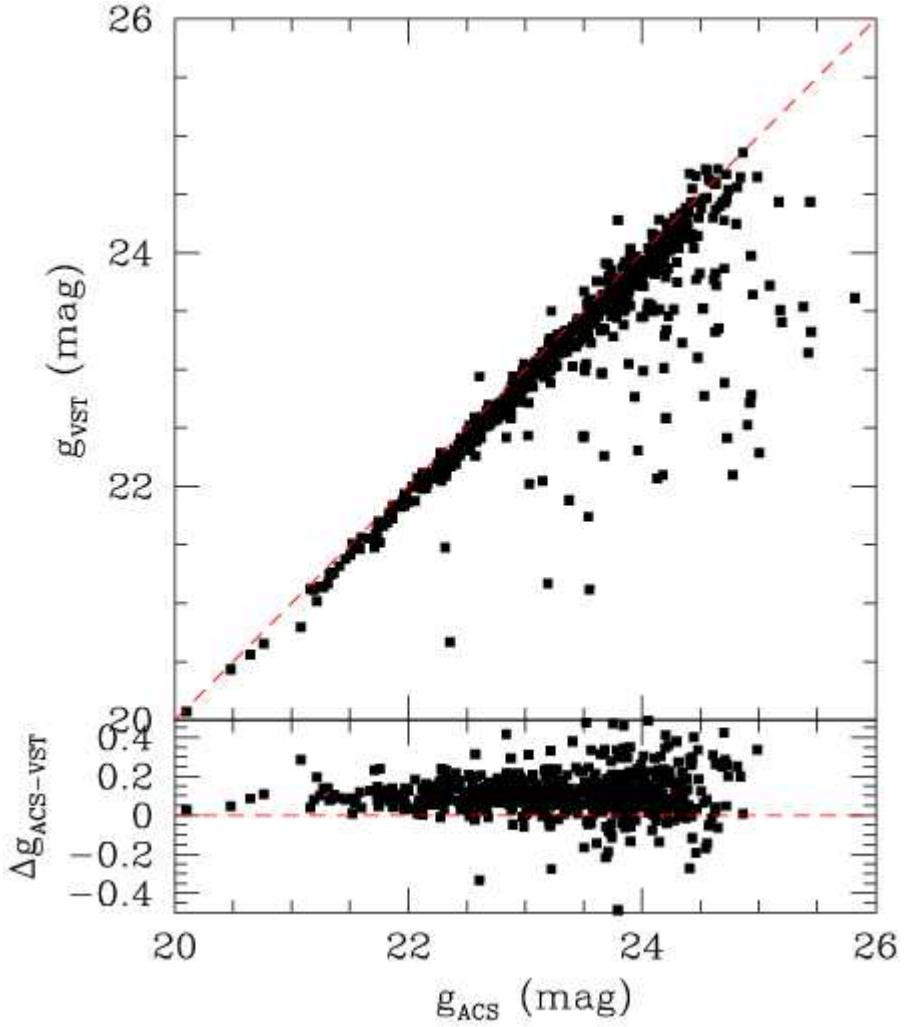


Synthesis populations by Teramo group (Cantiello et al.)



Preliminary results: VEGAS

Zero point difference of 0.1 mag, independent of the magnitude, not accounted by pass-band differences (0.01 mag)

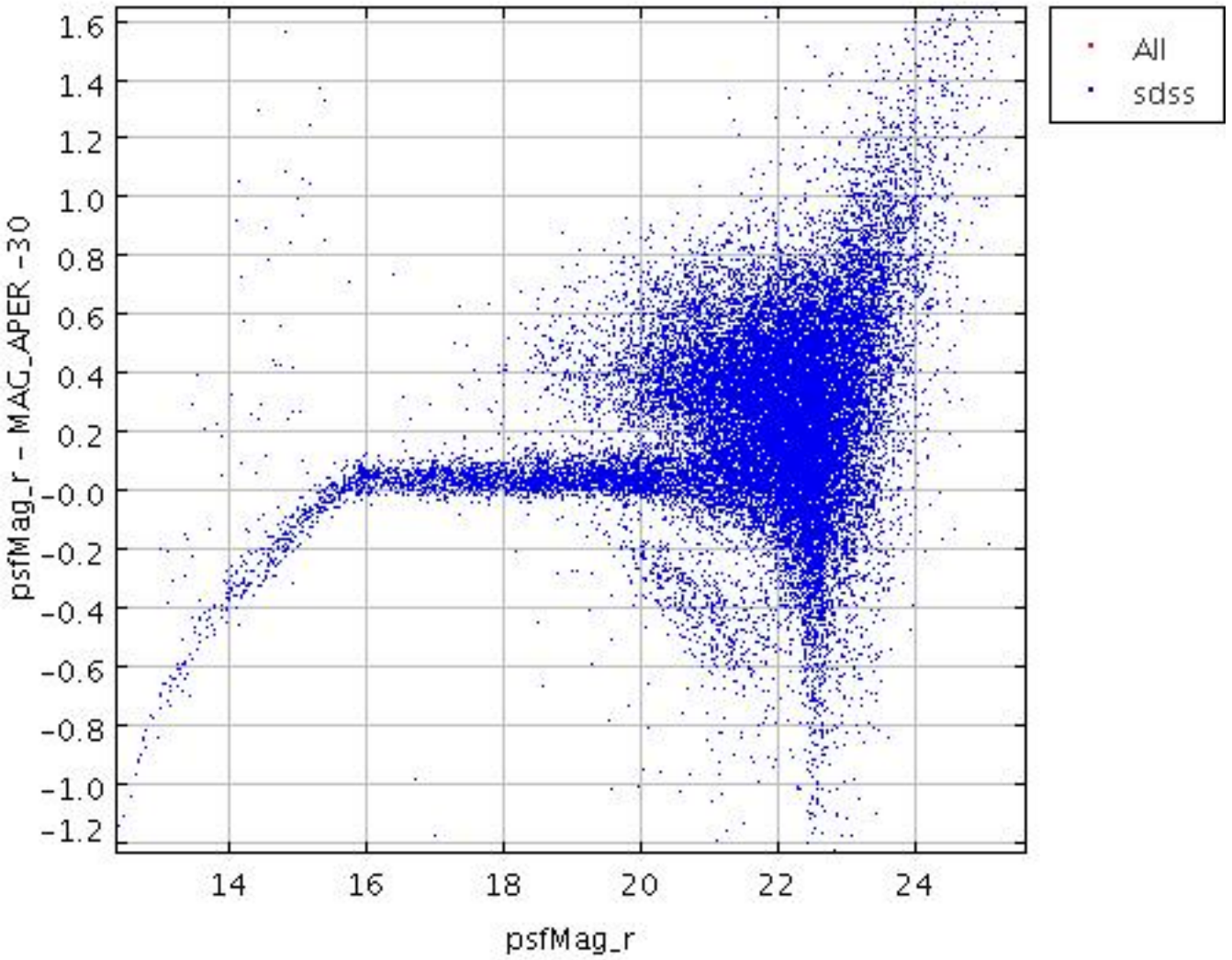


Preliminary results: COSMOS

*SURVEY: **COSM***
Title: Supernova
COSMOS field

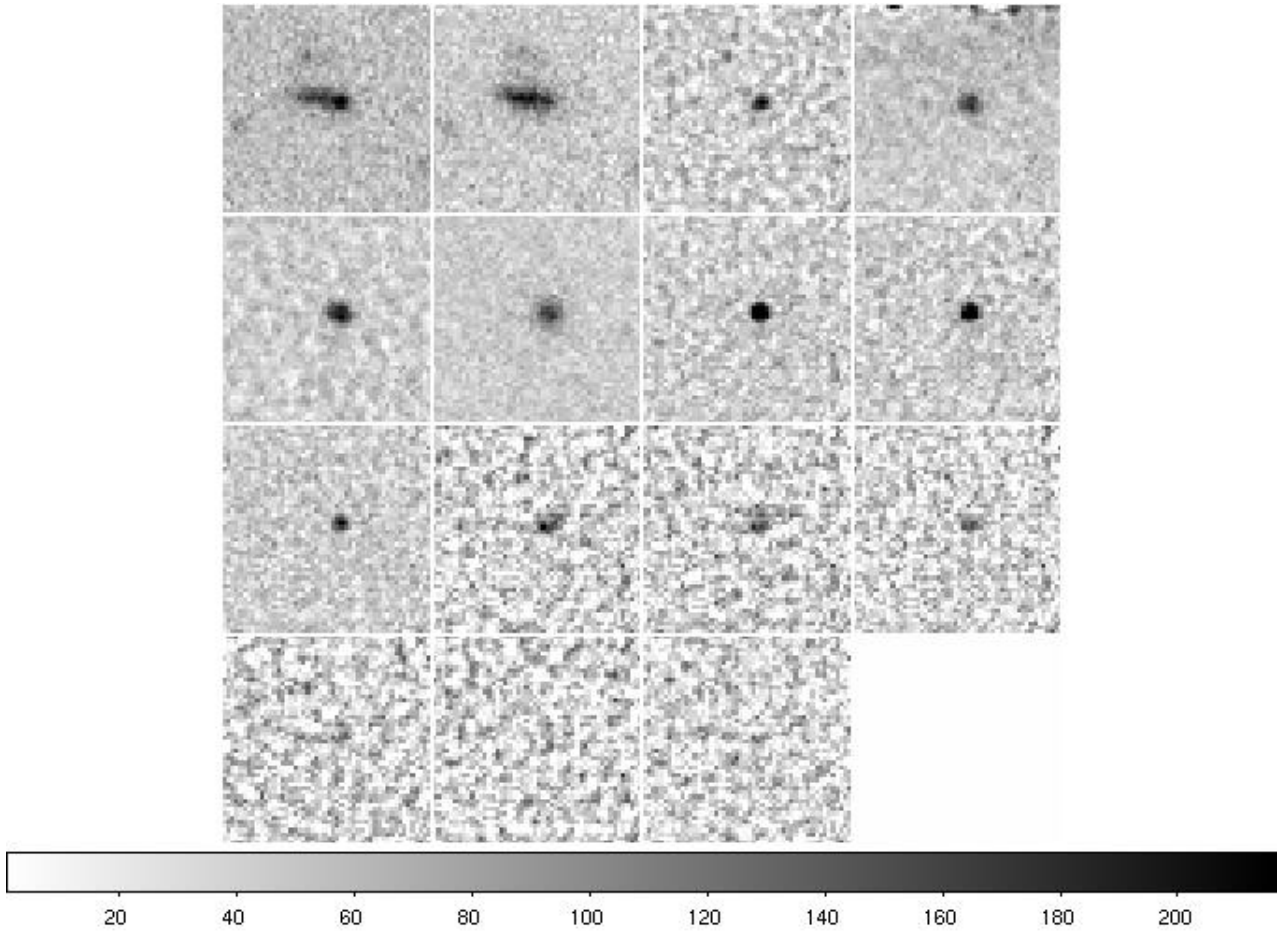
PIGNATA/ CAPPELI

DATA: r' band S
exposures (sor

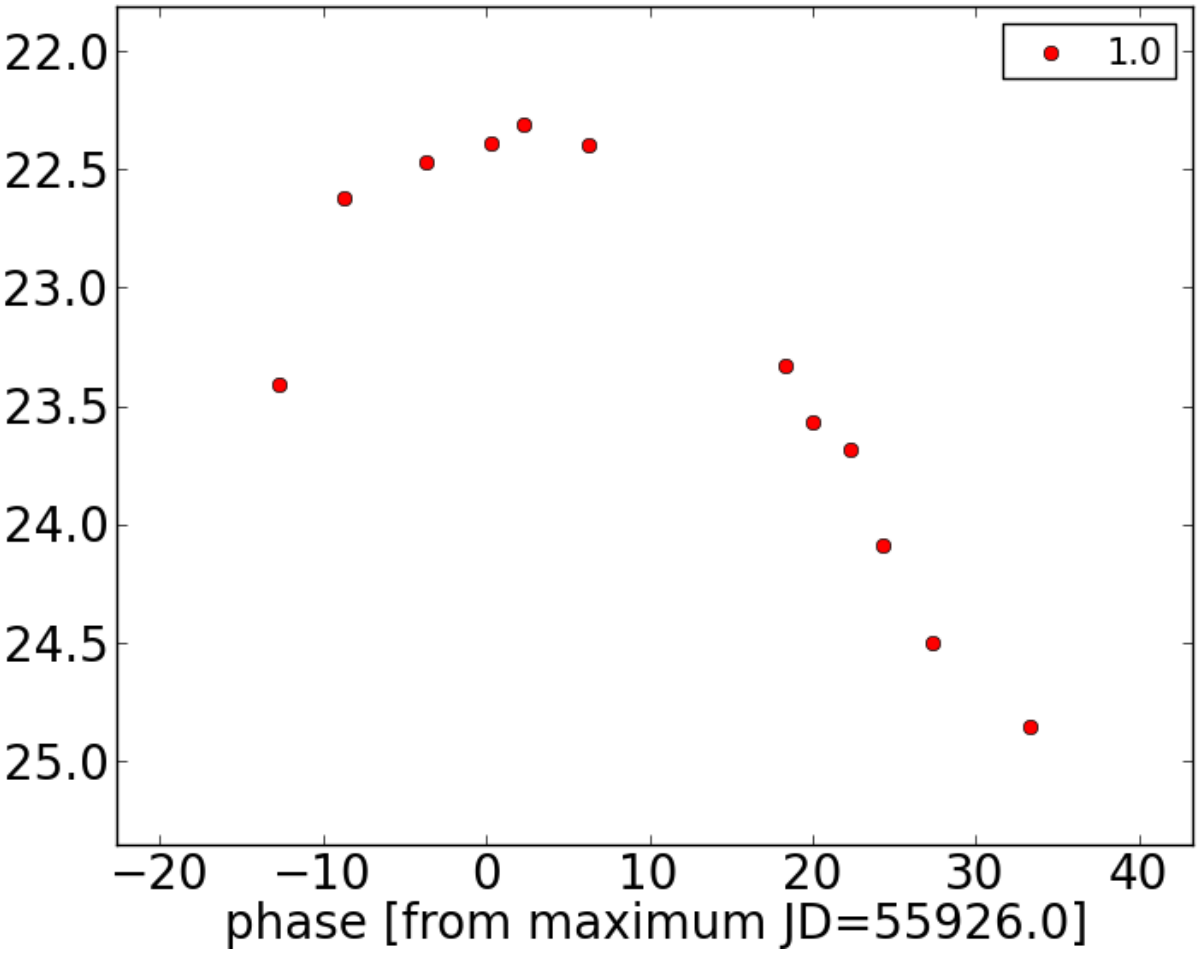


Preliminary results: COSMOS

Example of SN pre-maximum in the first mosaic, visible in all the epochs.
Redshift host galaxy: 0.35

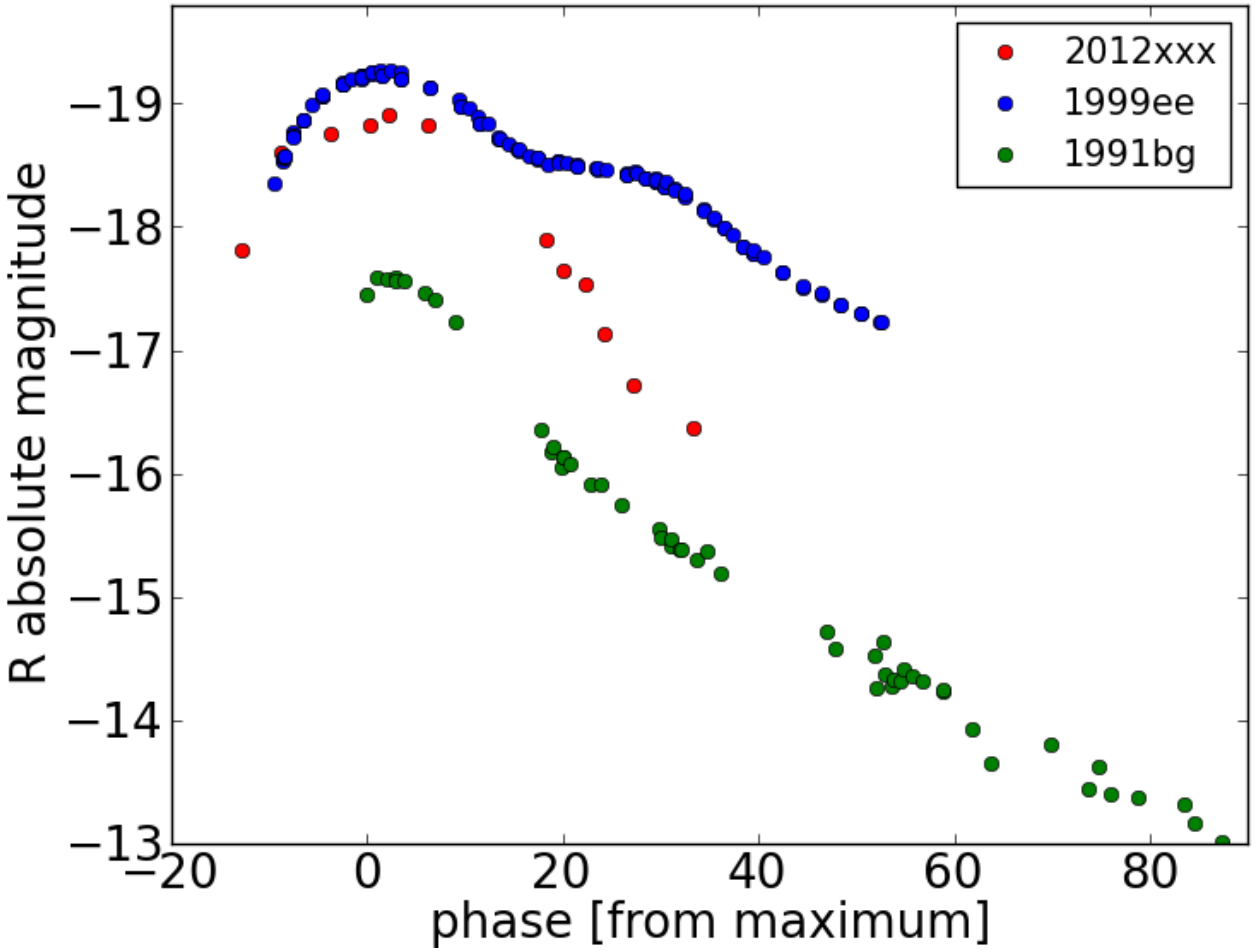


Preliminary results: COSMOS



Collaboration very happy with the results!!

Preliminary results: COSMOS

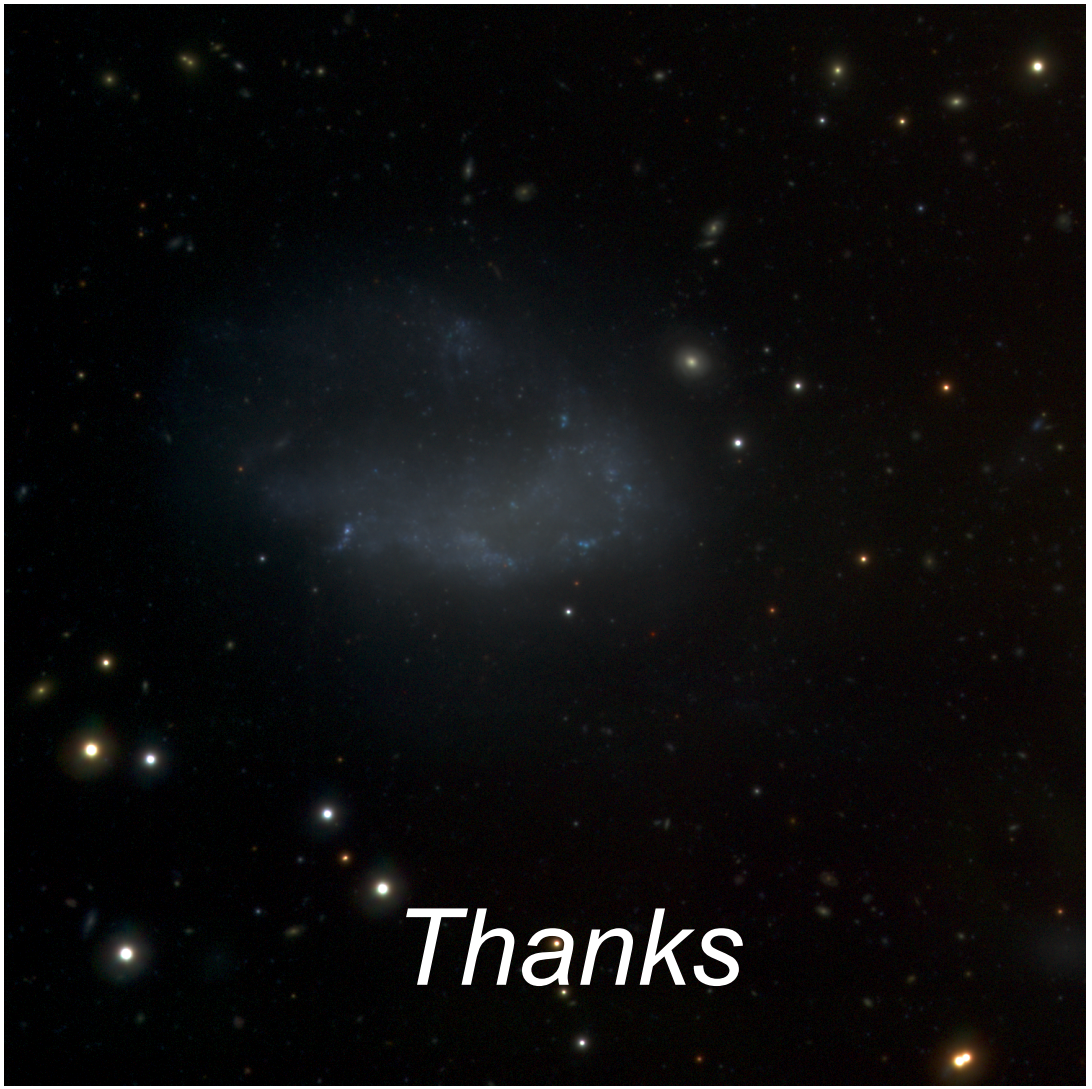


Some results

- *On going strong and fruitful with surveys team*

- *Surface brightness studies very tough (push at the limit pipeline, telescope and camera)*

- *Science results start to come…….*



NGC1427A