

An ESO/RadioNet Workshop  
ESO Garching, 10–14 March 2014

# 3D2014

Gas and stars in galaxies:  
A multi-wavelength 3D perspective

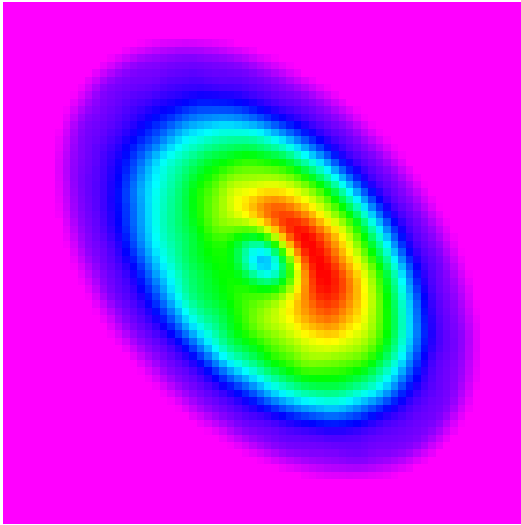
## **Highlight talk session 3** **Monday 10:20**

- **Punzo**
- **Giese**
- **Sanchez**

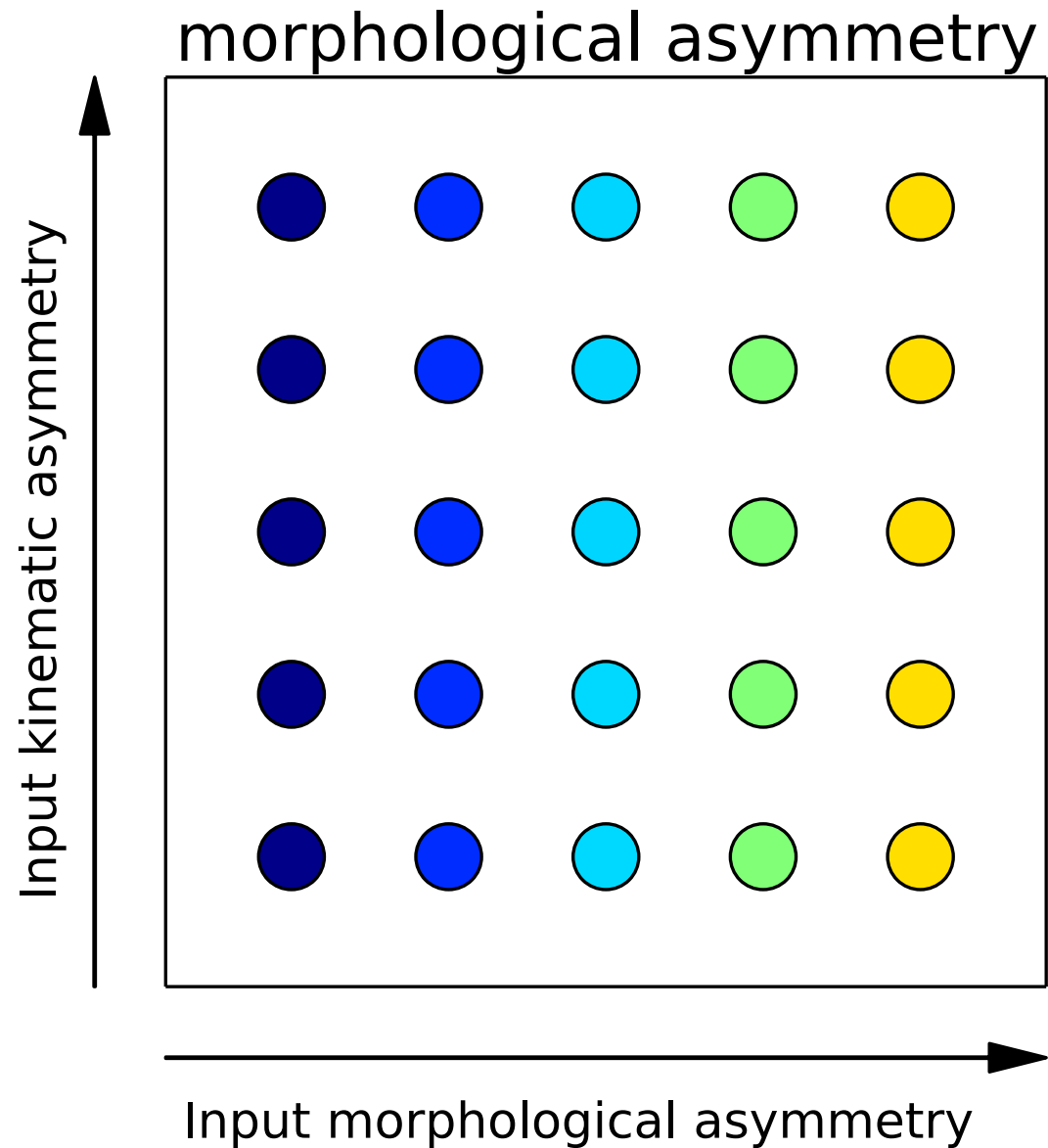
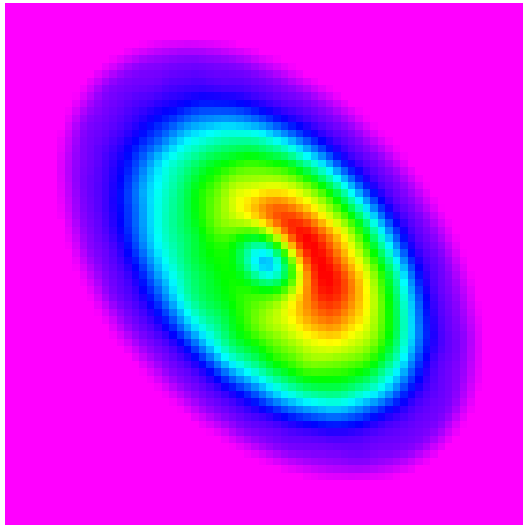
# Non-parametric characterization of 3D HI data

- ▶ Asymmetry in HI distribution and kinematics: indicator for evolutionary processes
- ▶ Large blind HI surveys: huge number of galaxies
- Fast non-parametric methods to characterize objects
- ▶ Use 3D information

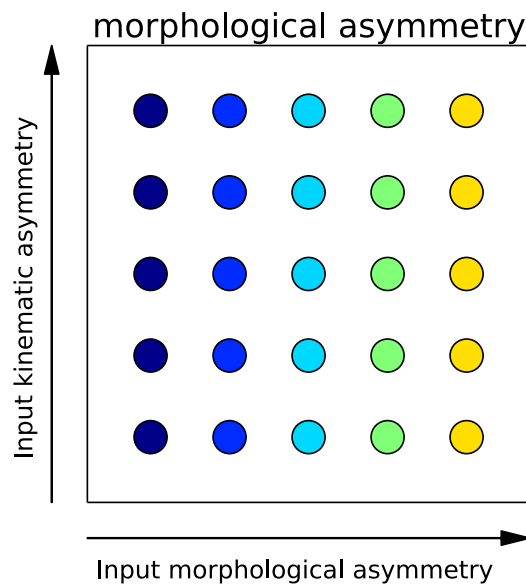
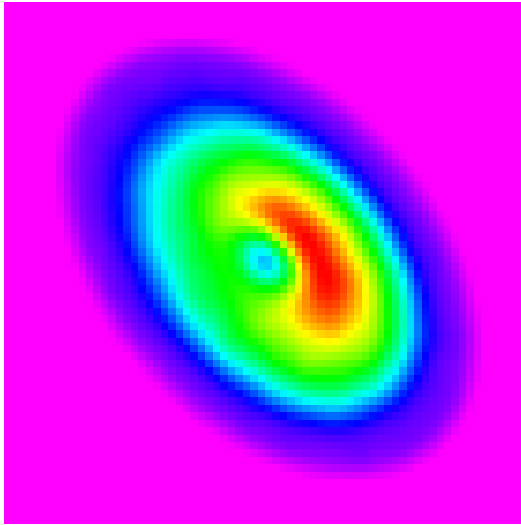
# Non-parametric characterization of 3D HI data



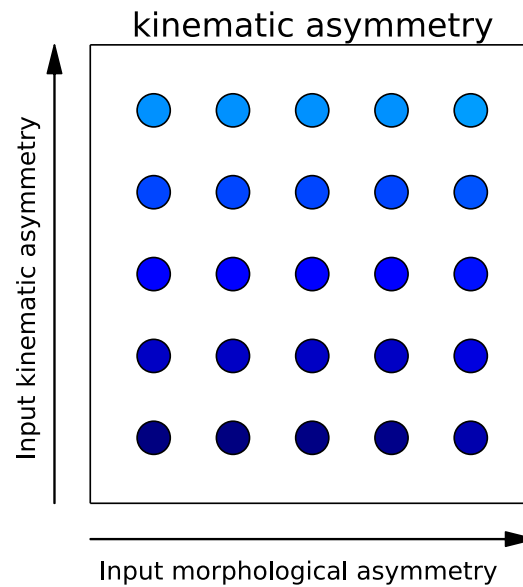
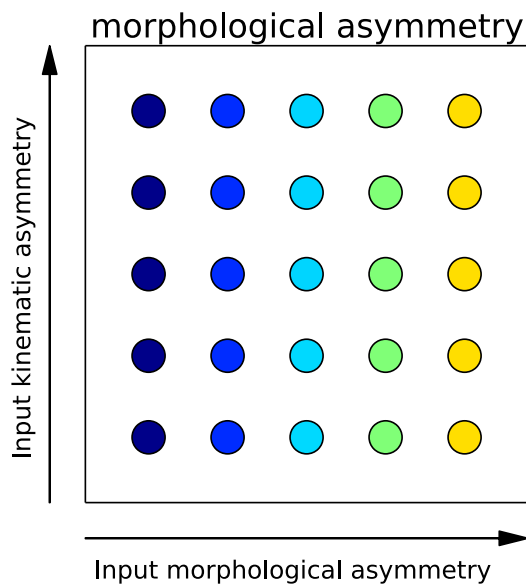
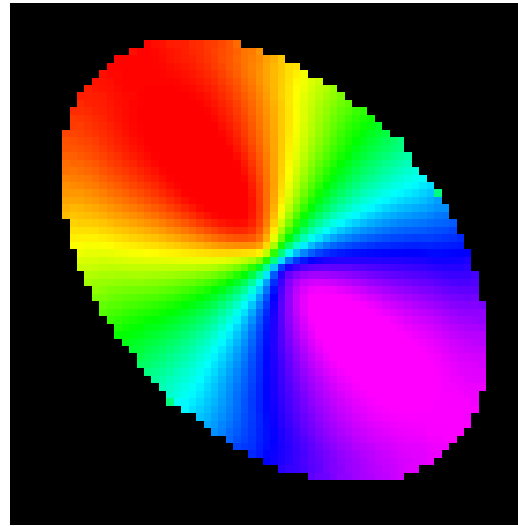
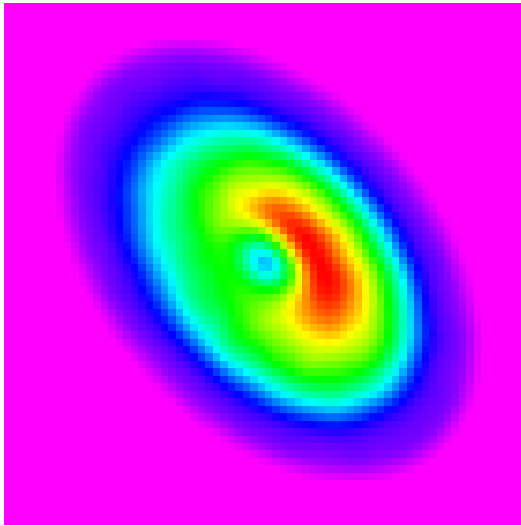
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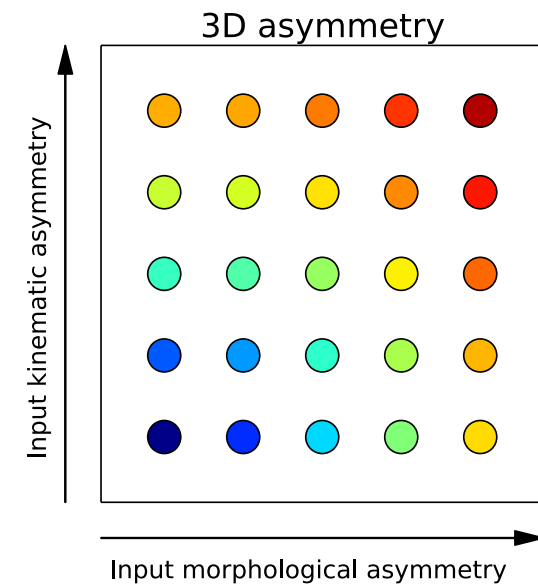
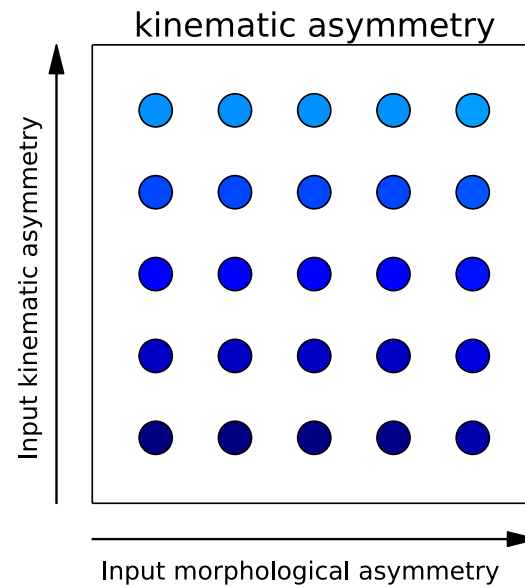
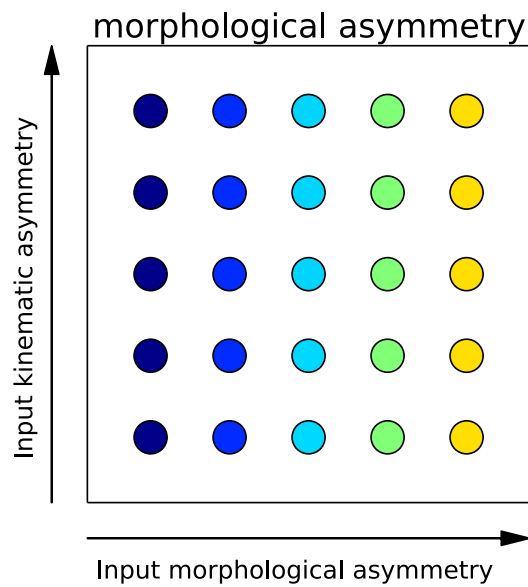
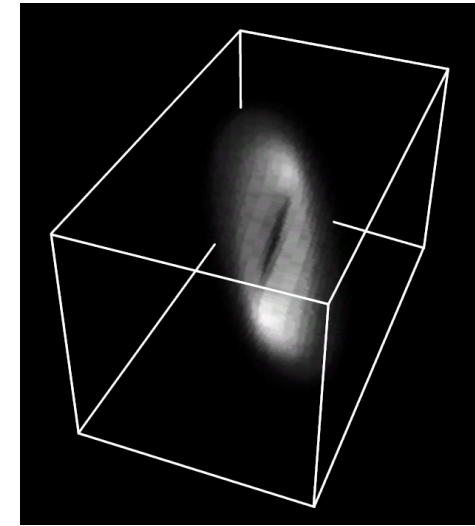
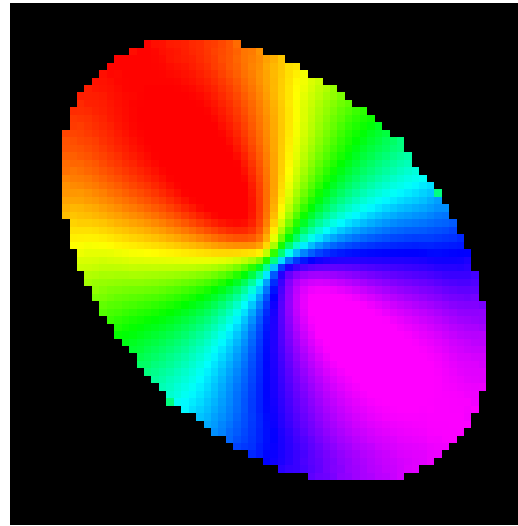
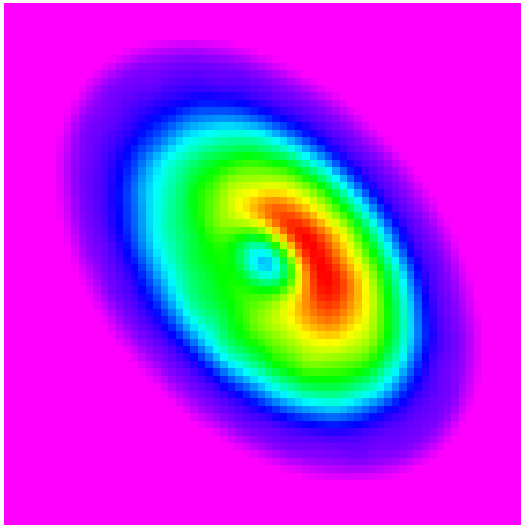
# Non-parametric characterization of 3D HI data



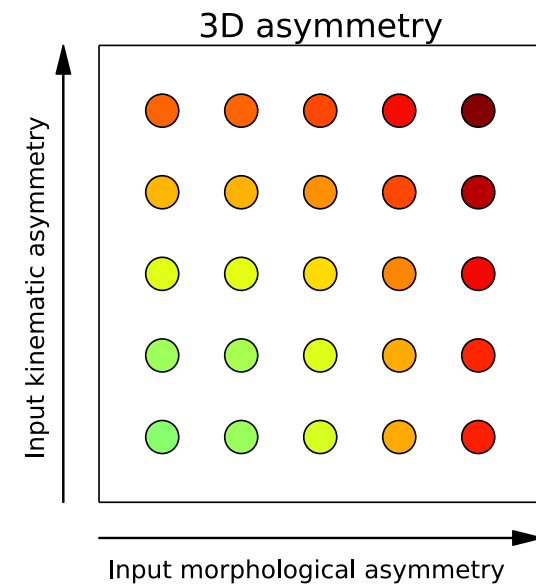
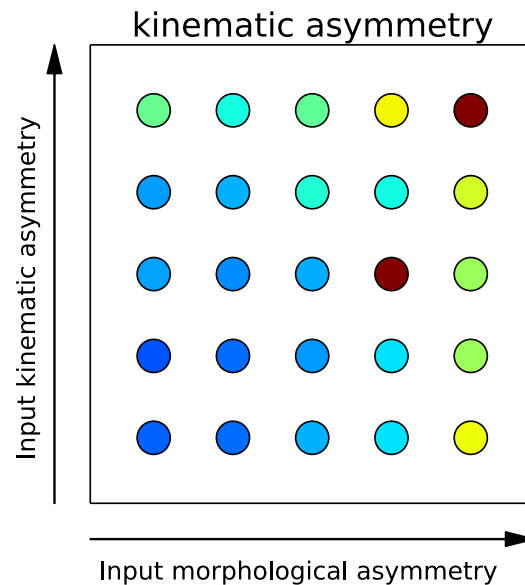
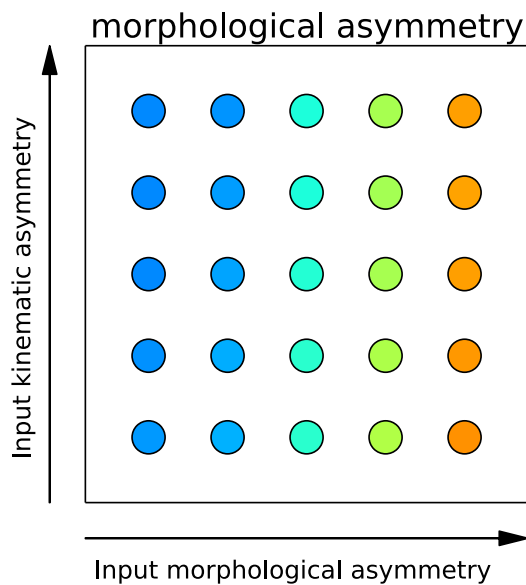
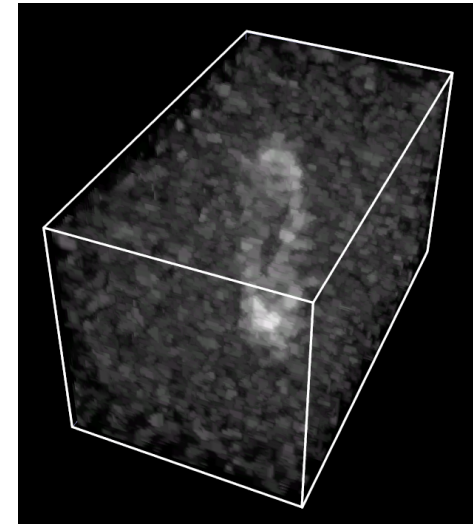
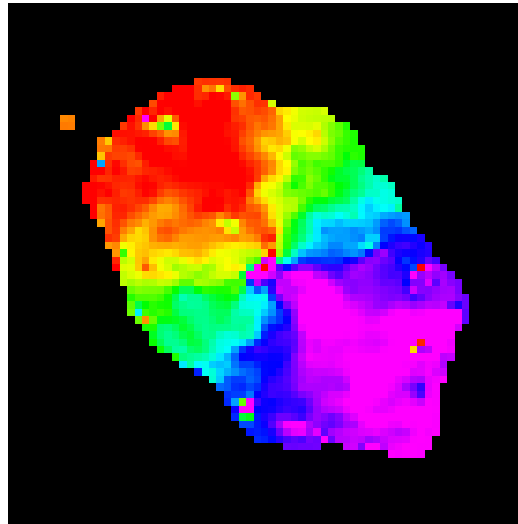
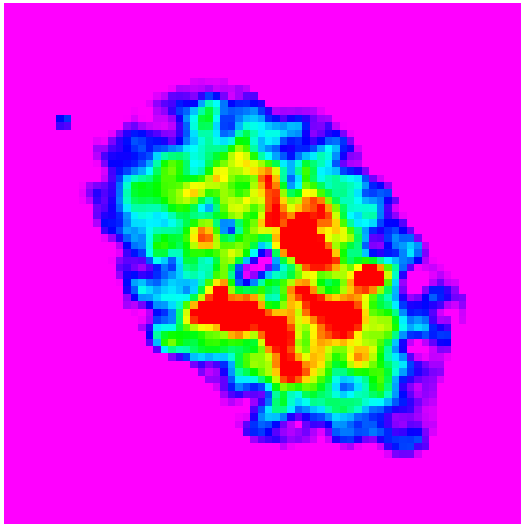
# Non-parametric characterization of 3D HI data



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# Non-parametric characterization of 3D HI data





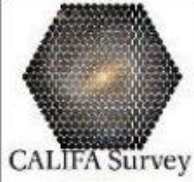
# Non-parametric characterization of 3D HI data

## Conclusions

- ▶ Full 3D information enhances asymmetry measurement
- ▶ Noise introduces a non-negligible bias

## Outlook

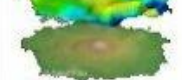
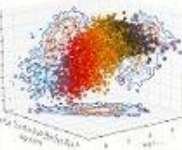
- ▶ Quantify noise influence
- ▶ Error estimation



CALIFA Survey

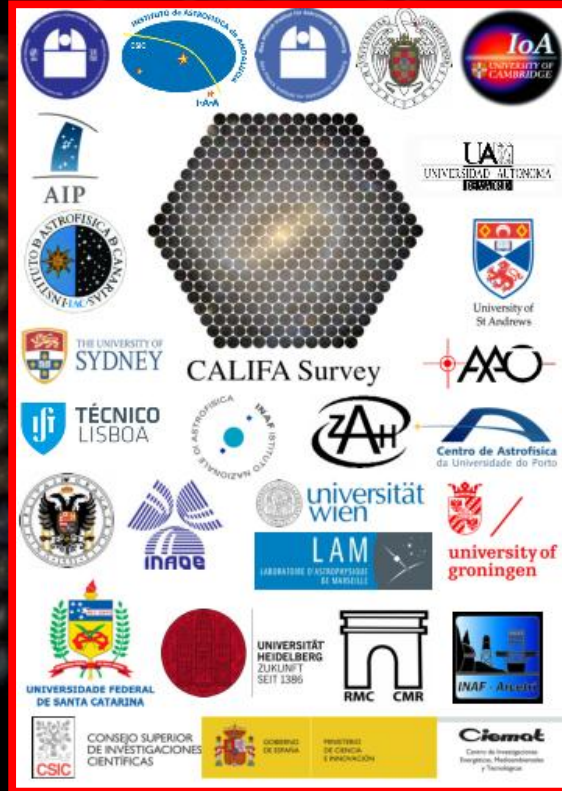


instituto de astronomía  
UNAM



# The CALIFA Survey: Highlights

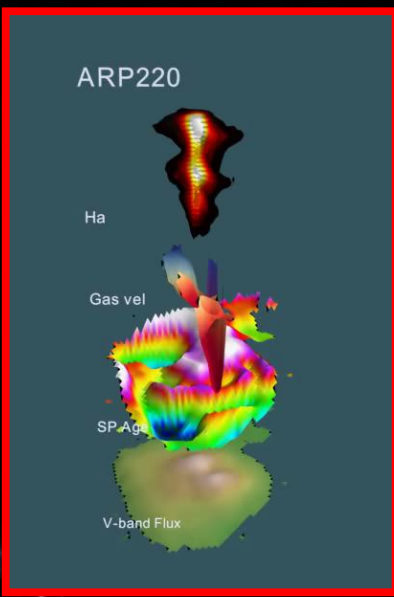
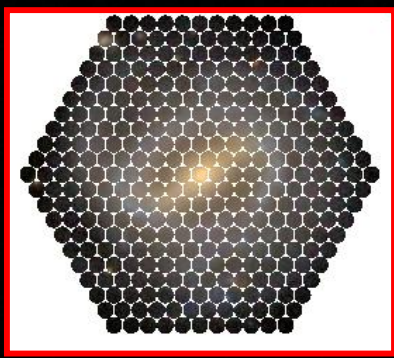
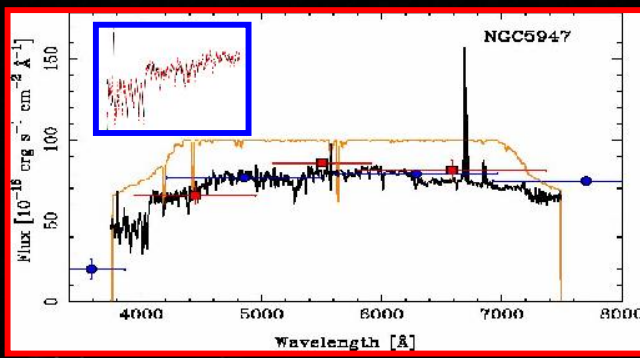
Sebastián F. Sánchez -IA/UNAM



- 3D2014 -

- Garching, Germany, 2014-

<http://califa.caha.es>



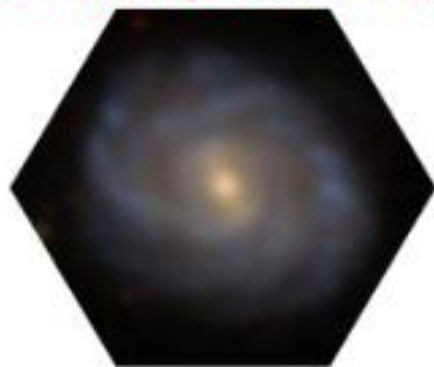
Color

Absolute Magnitude

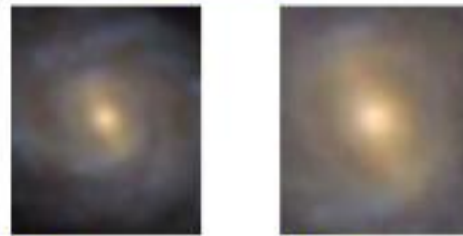
SDSS 90"x90" image



CALIFA (V500/V1200)



Atlas3D



Z~Z califa

Z~Z Atlas3D

MaNGA largest FoV



FoV~1.5Re

~2.5Re

SAMI



Z~Z califa

Z~Z SAMI

CALIFA

2x3x331 spaxels; 2.7"/spaxel

600 galaxies of any type

~1.200.000 spec.; 3700-7500 Å

Atlas3D

1577 spaxels; 0.94"/spaxel

260 ETGs

~400.000 spectra; 4810-5350 Å

MaNGA

3x(19-127) spaxels; 2"/spaxel

7000 gal. of any type (~1.5Re)

2000 gal. of any type (~2.5Re)

1000 gal. of any type (any Re)

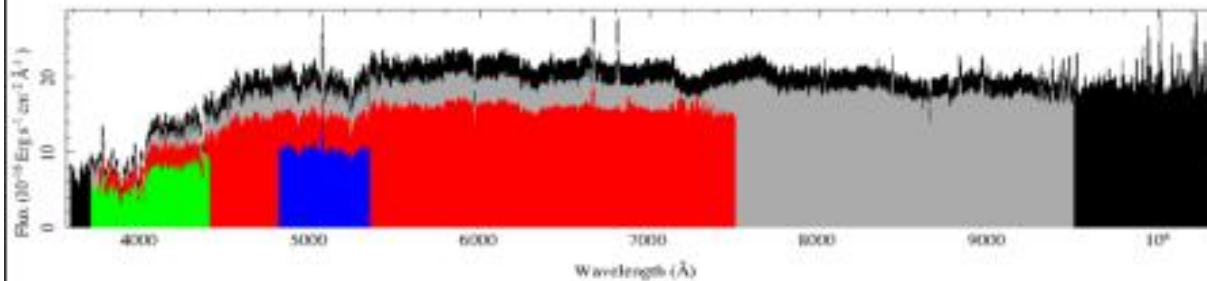
~800.000 spec.; 3550-10000 Å

SAMI

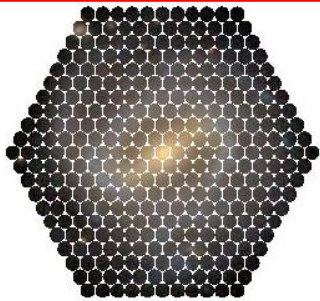
9x61 spaxels; 1.6"/spaxel

3400 galaxies of any type

~1.900.000 spec.; 3700-9500 Å







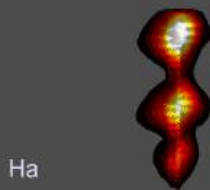
CALIFA Survey

Keep Tunned!

<http://califa.caha.es/>

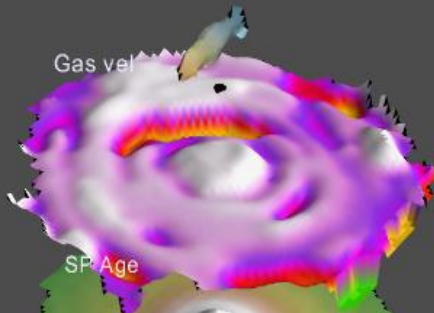
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NGC7550



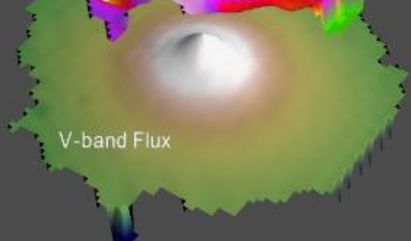
Ha

Gas vel

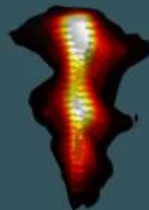


SP Age

V-band Flux

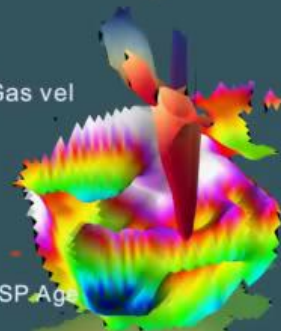


ARP220



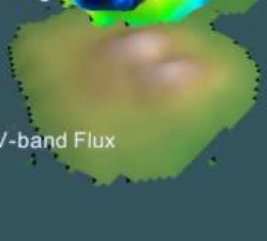
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Gas vel

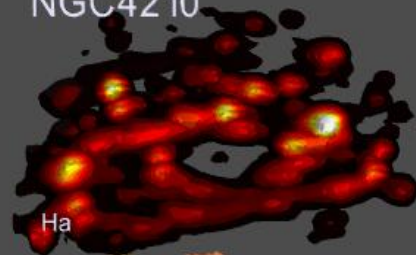


SP Age

V-band Flux

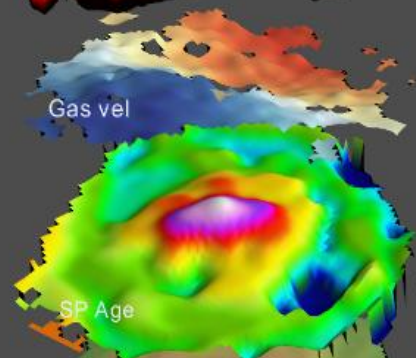


NGC4210



Ha

Gas vel



SP Age

V-band Flux

