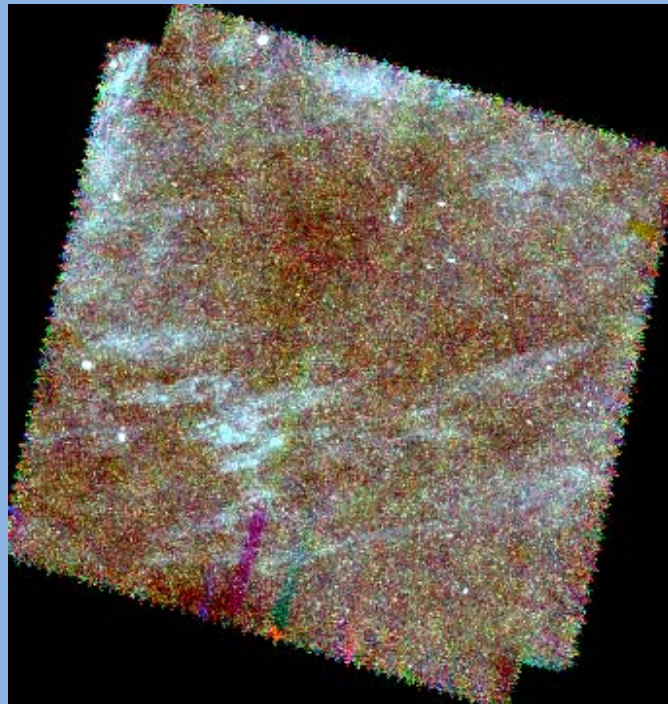
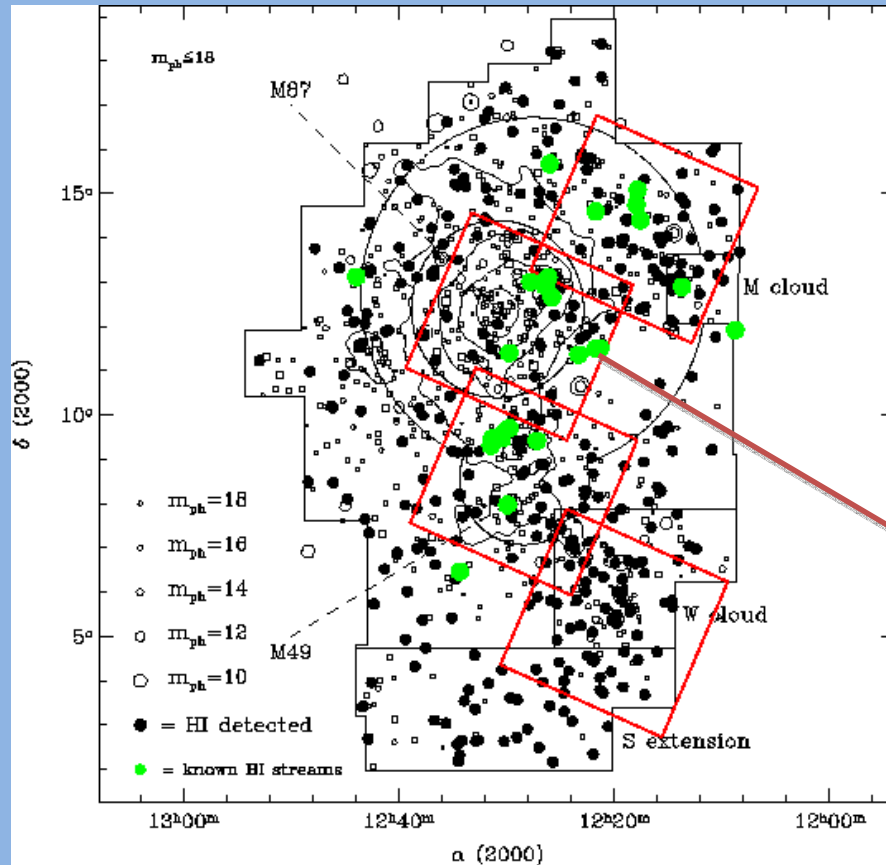


Herschel Virgo Cluster Survey (HeViCS)





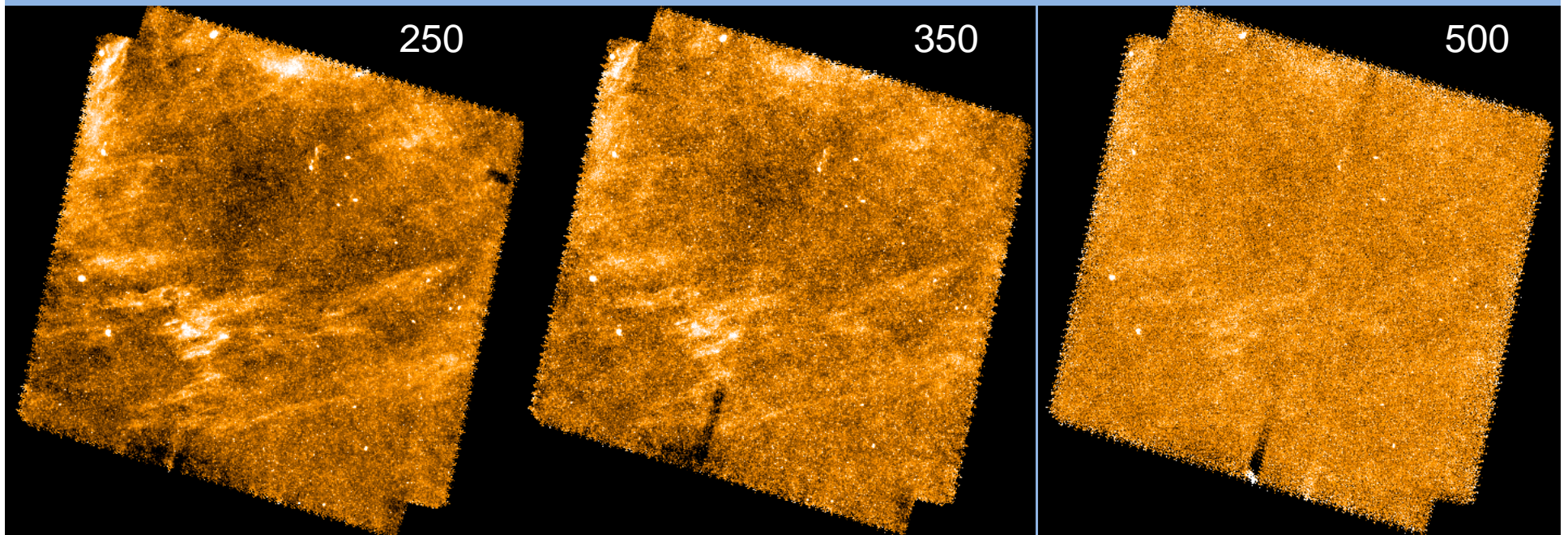
The Proposal

286 hours of SPIRE
 and PACS parallel
 mode to scan 64 sq deg (8 scans)
 of the nearby Virgo cluster
 providing data from PACS at 110 and 170 μ
 and SPIRE at 250, 350 and 500 μ

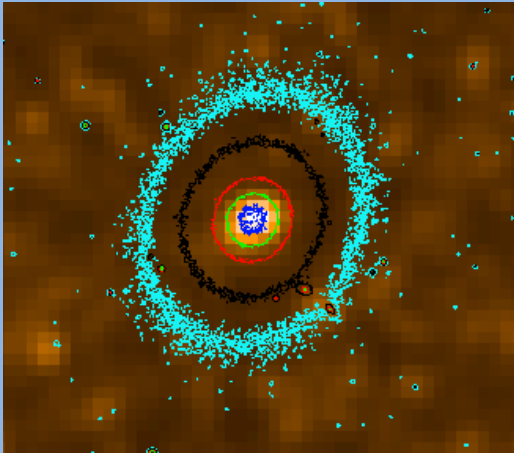
→ SD data is 2 scans of the central
 cluster field

Science Topics

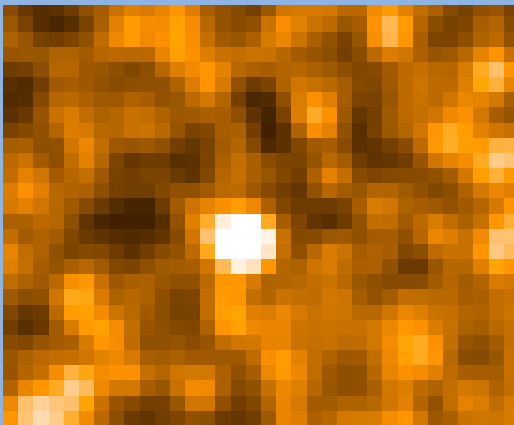
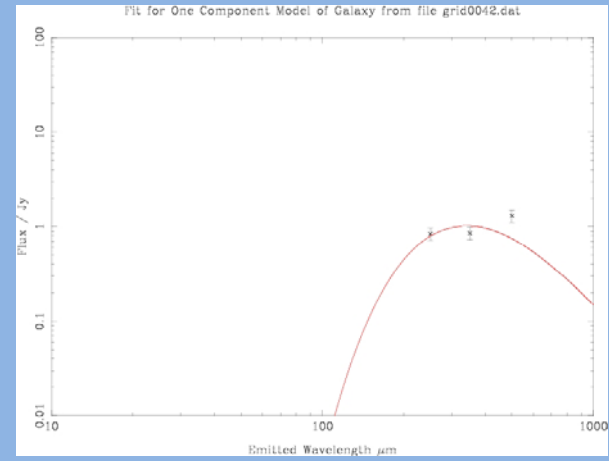
1. Star formation hidden by dust.
2. The energy balance – energy produced by dust.
3. Spectral energy distributions – how much reprocessed by dust.
4. Processes in the inter-stellar medium – dust production.
5. Dust in elliptical galaxies.
6. The mass of cold dust.
7. Environmental effects on dust content of galaxies in clusters.
8. The detection of dust in dwarf galaxies.
9. Dust in the inter-galactic medium.
10. Background galaxies.
11. Unusual objects.



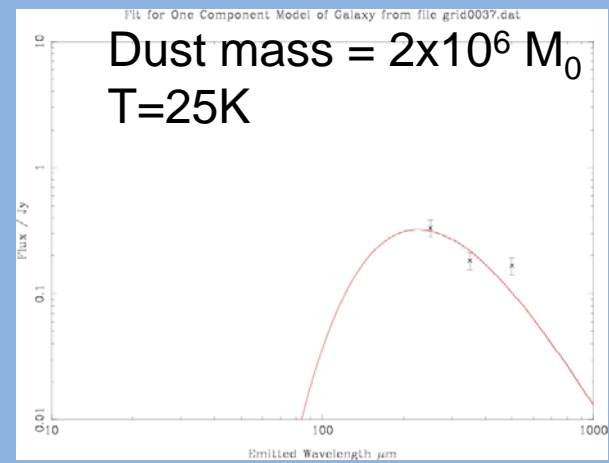
Specific Objects

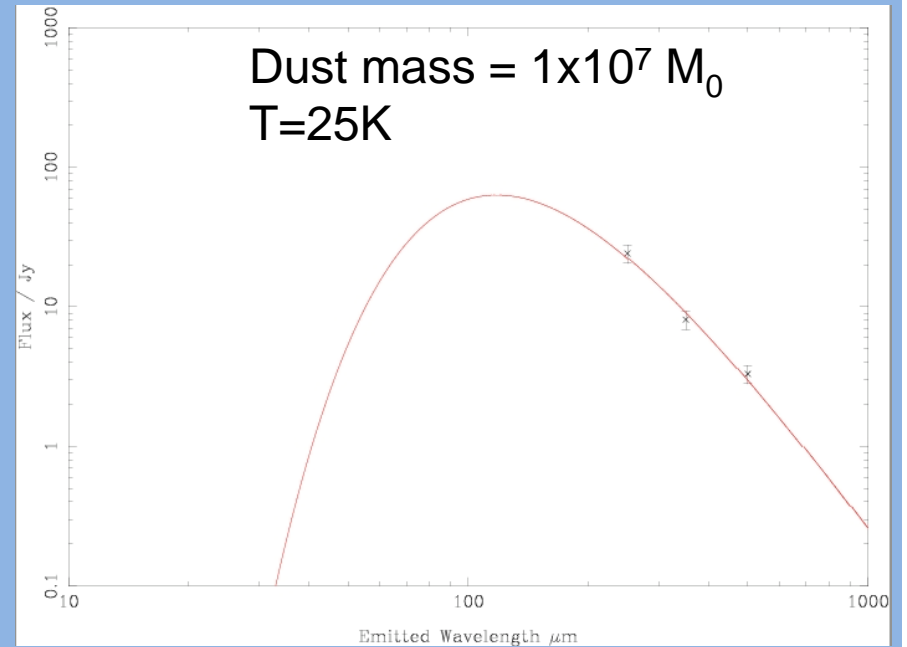
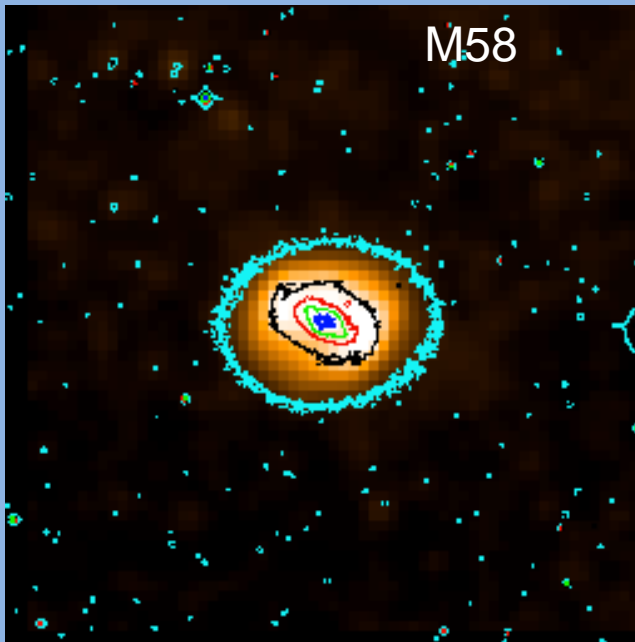
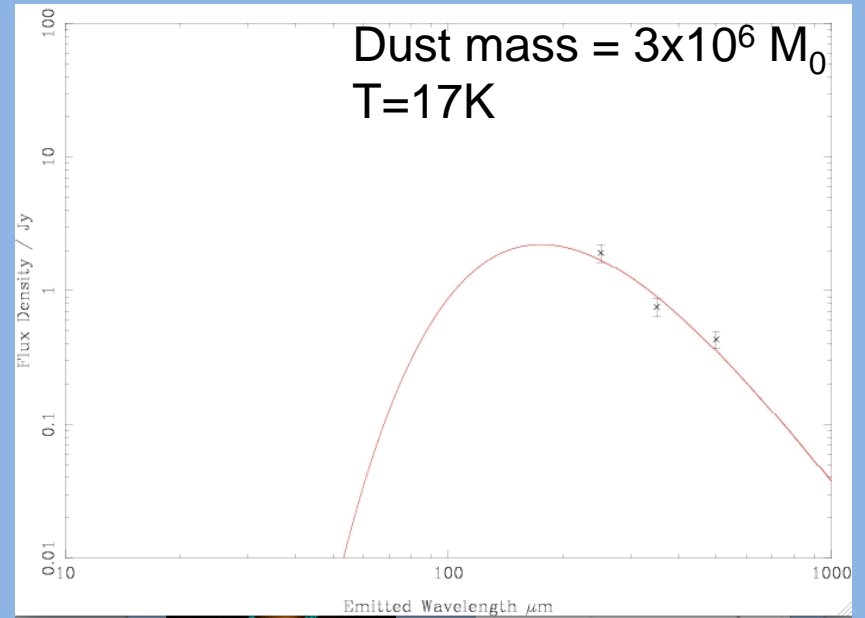
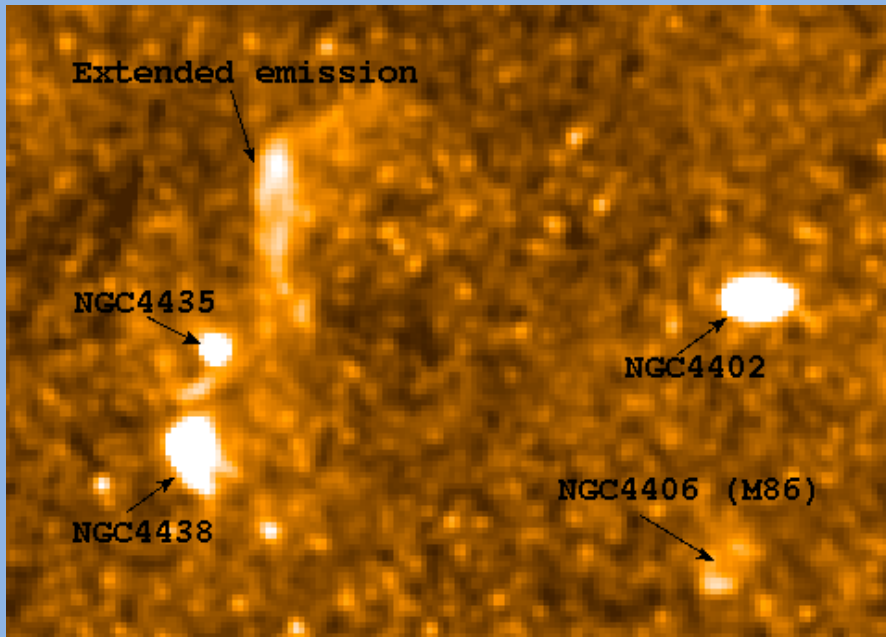


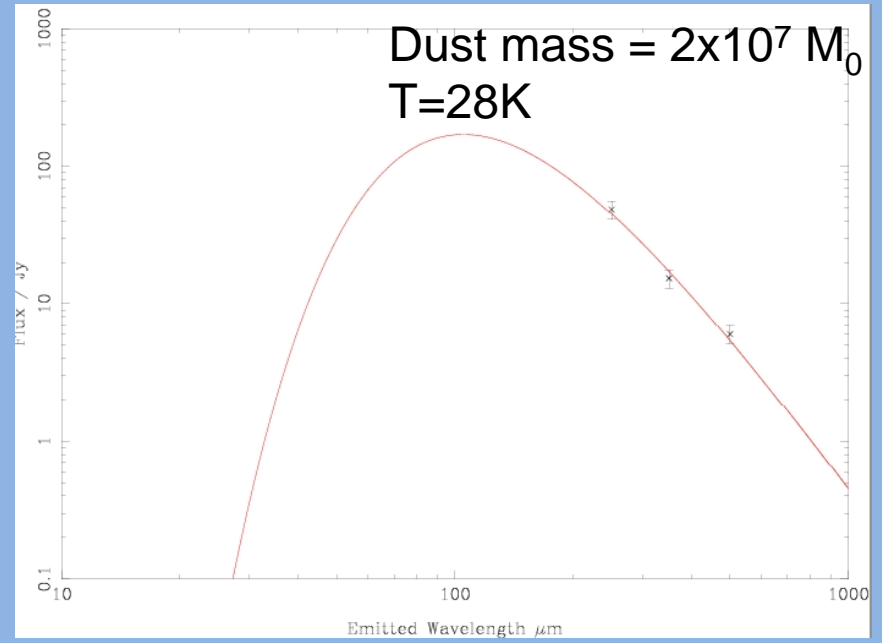
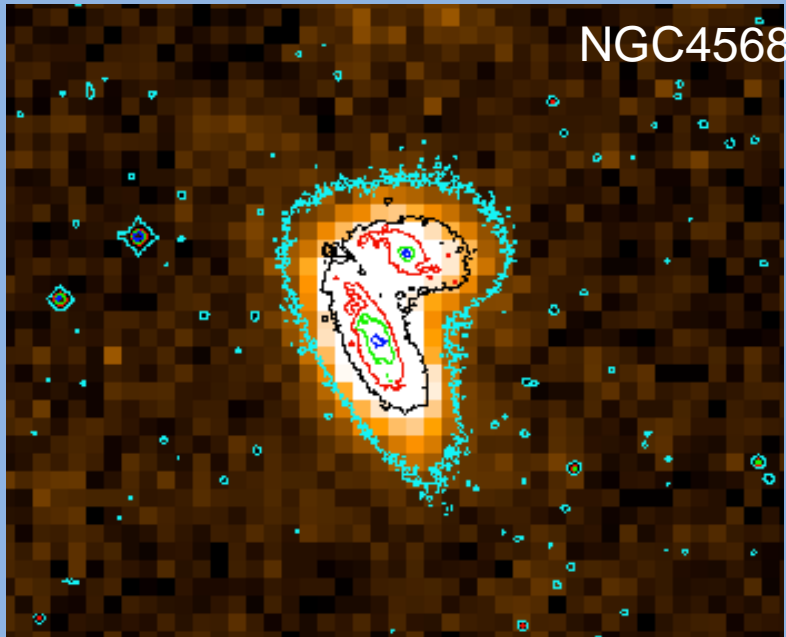
M87



M84







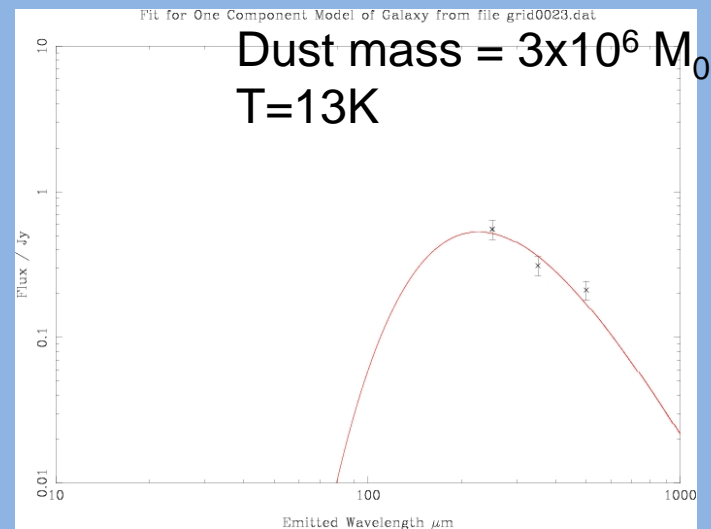
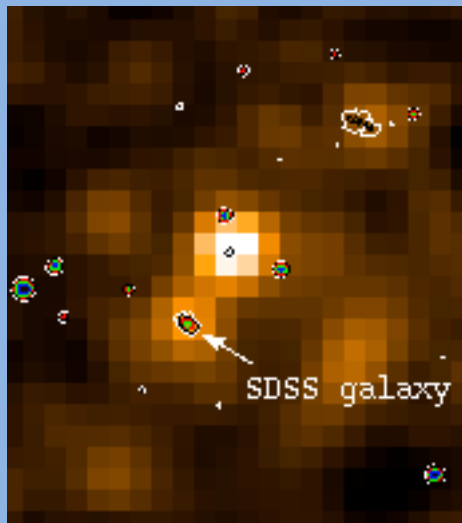
Properties of a Virgo 500 μ selected sample

Sample selected at 500 μ with 30 pixels within a 0.14 Jy/beam isophote. 31 galaxy detections 24 of which are well known Virgo Cluster galaxies. Other 7 detection have nearby SDSS sources. Many more fainter sources to be extracted from the data – Galactic cirrus will be a huge problem.

Mean dust mass (at 17 Mpc) = $3 \times 10^6 M_{\odot}$

Mean dust temperature of known Virgo galaxies = 22K

Mean temperature of 7 unknown sources = 13K



The link between dust and gas in Virgo: HI-rich galaxies

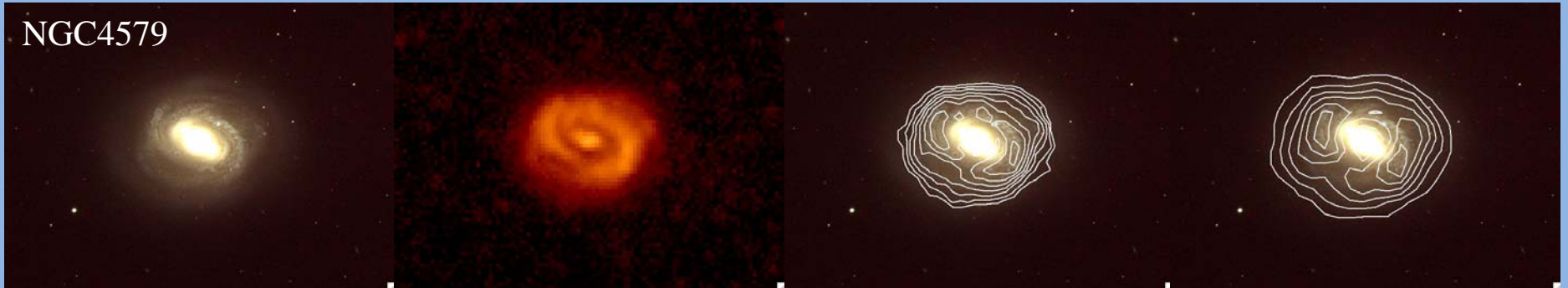
SDSS

SPIRE 250 μ m

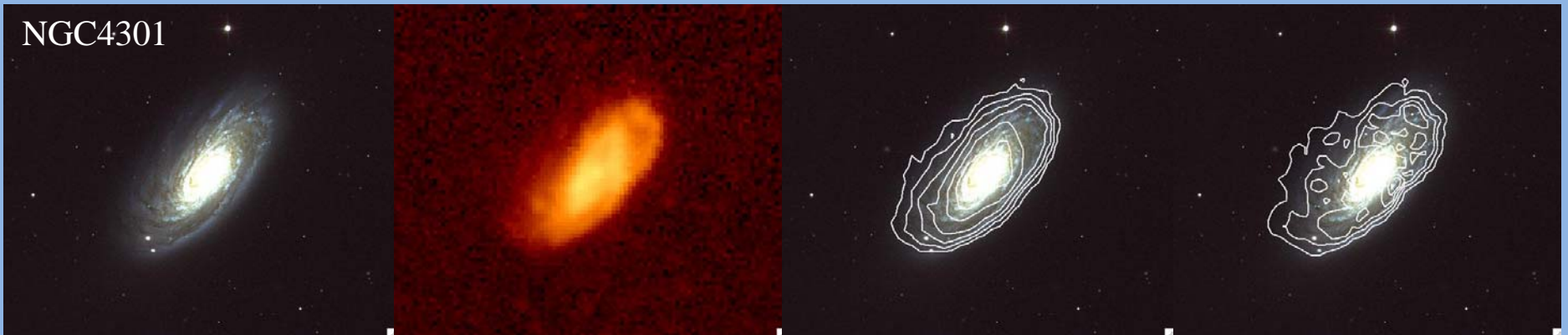
250 μ m cont. on SDSS

VIVA-HI cont. on SDSS

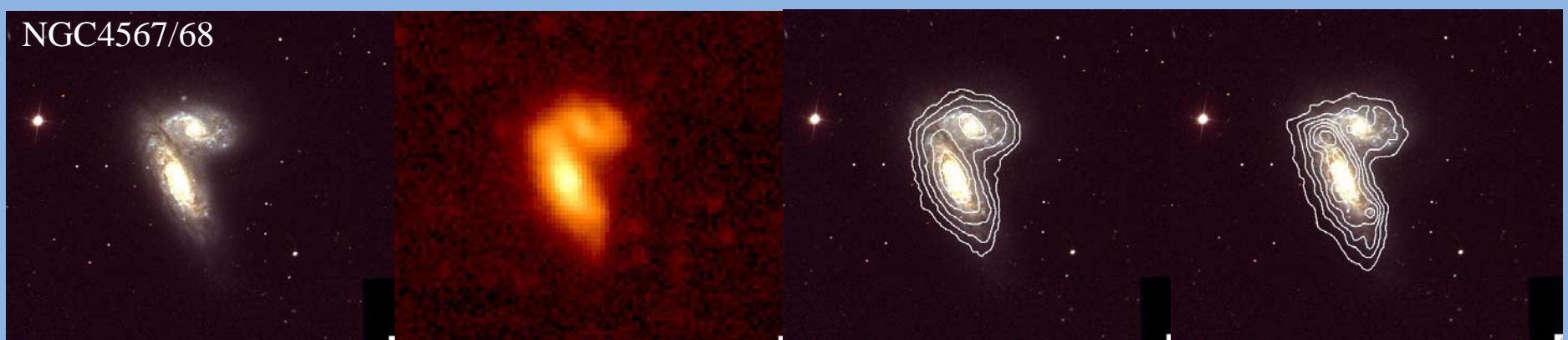
NGC4579



NGC4301



NGC4567/68



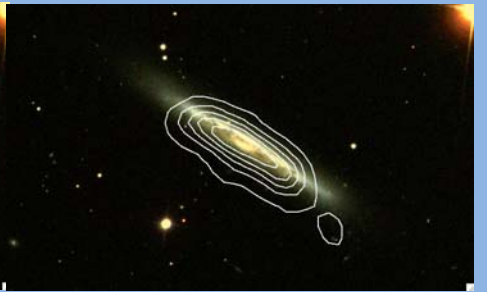
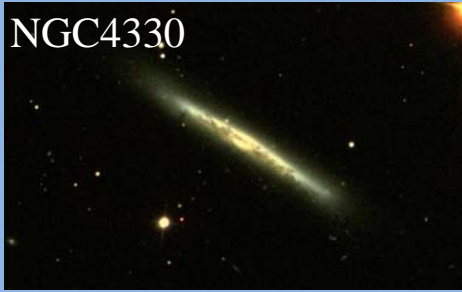
SDSS

SPIRE 250 μ m

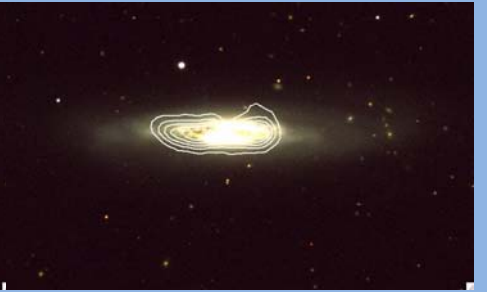
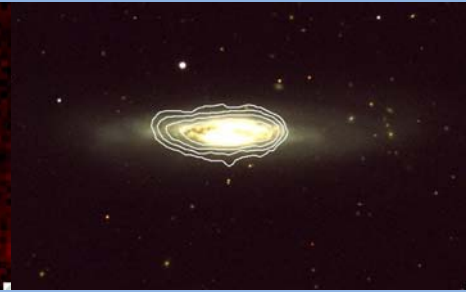
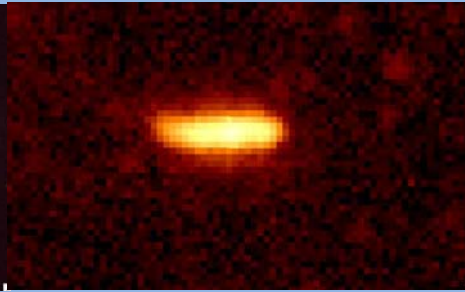
250 μ m cont. on SDSS

VIVA-HI cont. on SDSS

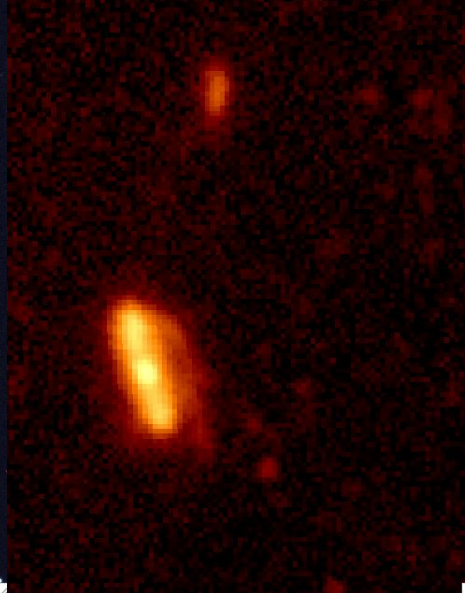
NGC4330



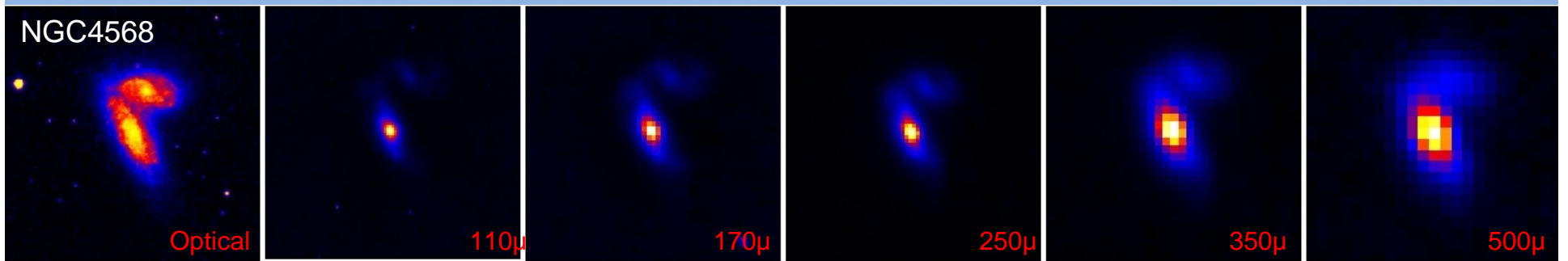
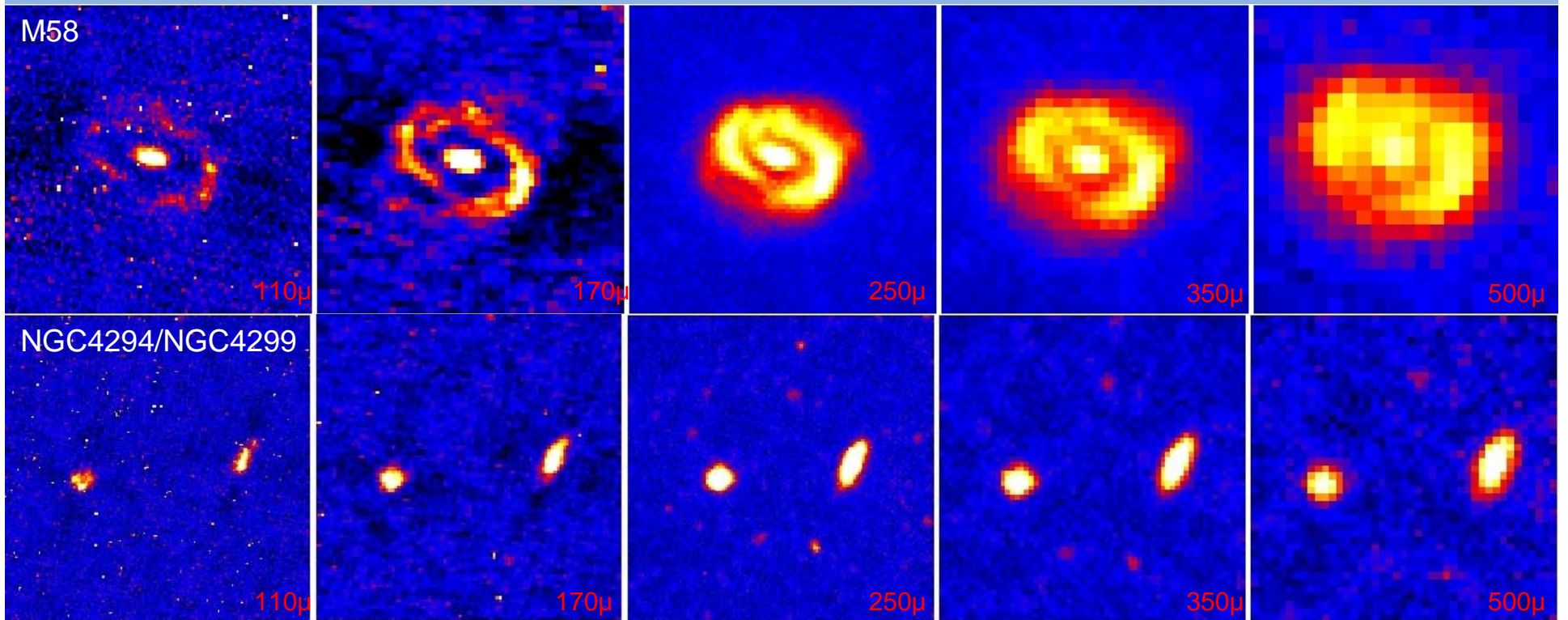
NGC4388



NGC4569



PACS and SPIRE data



Conclusions

What a great piece of kit!