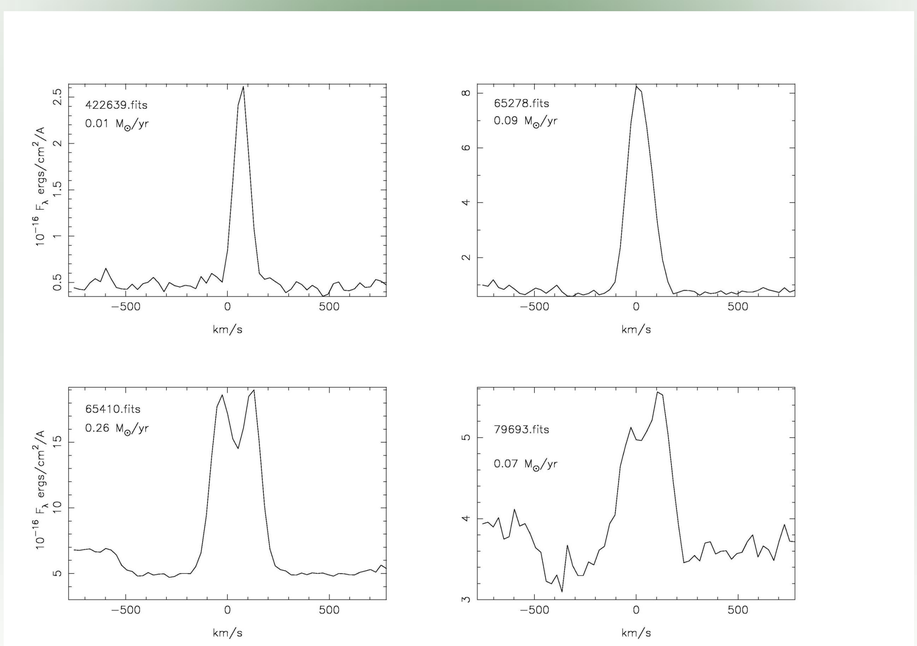
Star formation rates in SAMI EDR galaxies

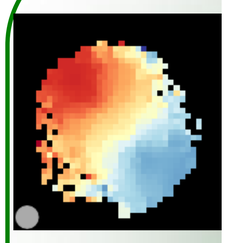
Summary

Anyone who has observed neutral hydrogen at 21 cm appreciates kinematic resolution with full galaxy field of view. Integral field spectroscopy makes this available at optical wavelengths. SAMI makes this available on the AAT with 13 deployable fibre bundles. Here we present Hα profiles for 64 galaxies from the SAMI early data release. They are simply obtained from the calibrated datacubes by coadding all spaxels over a 14 arcsec field for 61 wavelengths around redshifted Hα.
Luca Cortese and the SAMI team have studied the Tully Fisher relation for SAMI galaxies, using kinematic maps by Lisa Fogarty. Alternative Tully Fisher velocity widths would also be available from the Hα profiles presented here.

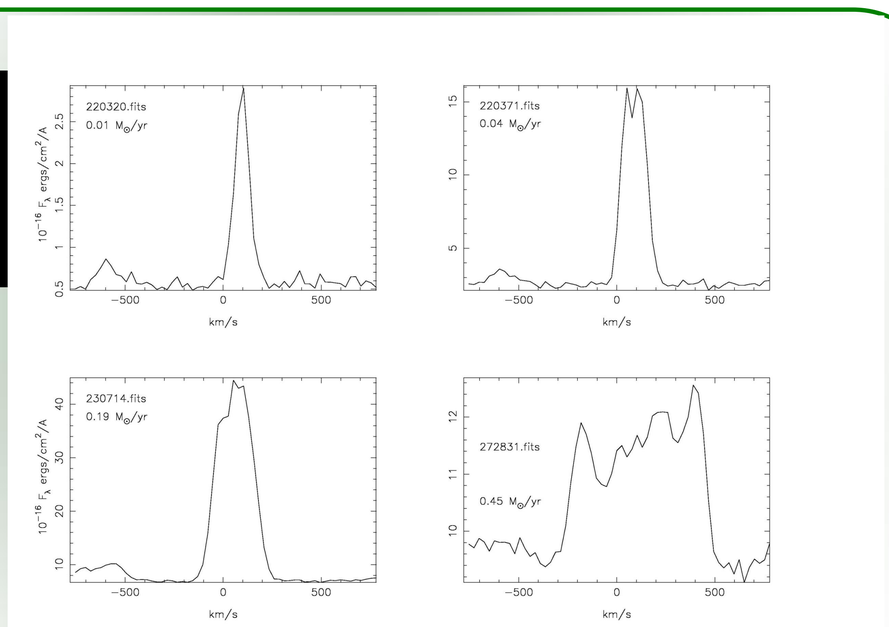
Ha flux to SFR

We use Kennicutt's relation from ARAA 1998. No correction for extinction, internal or external to the galaxy, has been made.



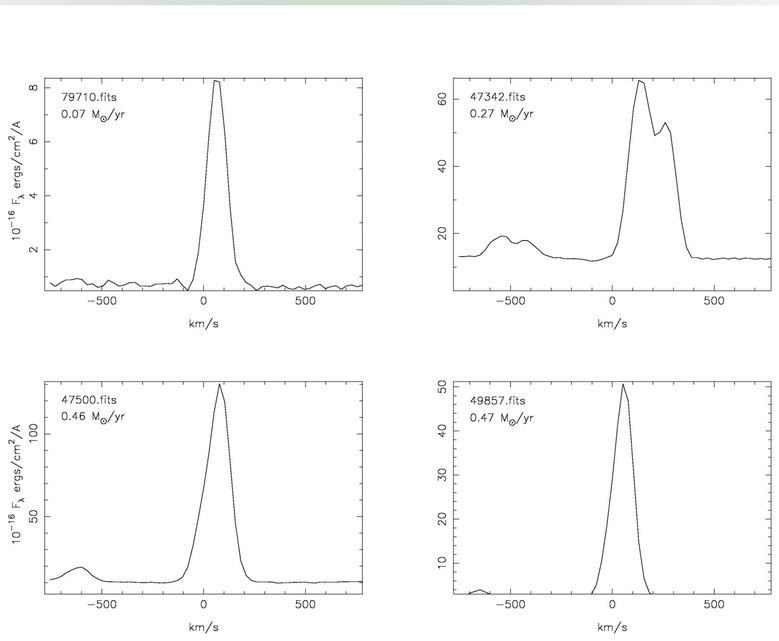


GAMA 272831 may be the most massive galaxy in the sample, judging by its velocity width.
It is also a Sy 2.



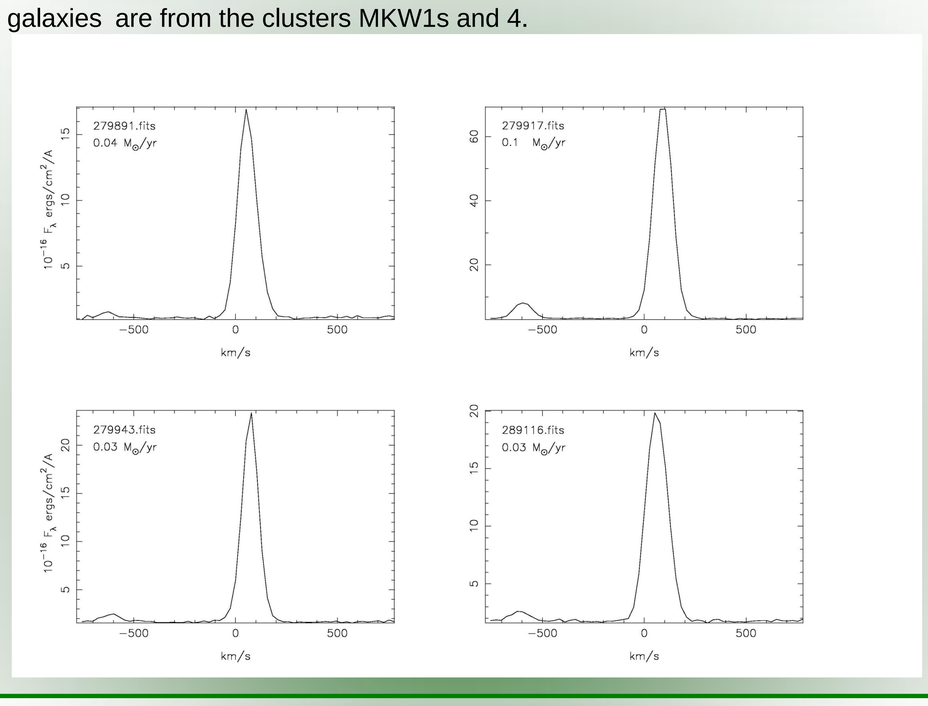
GAMA survey

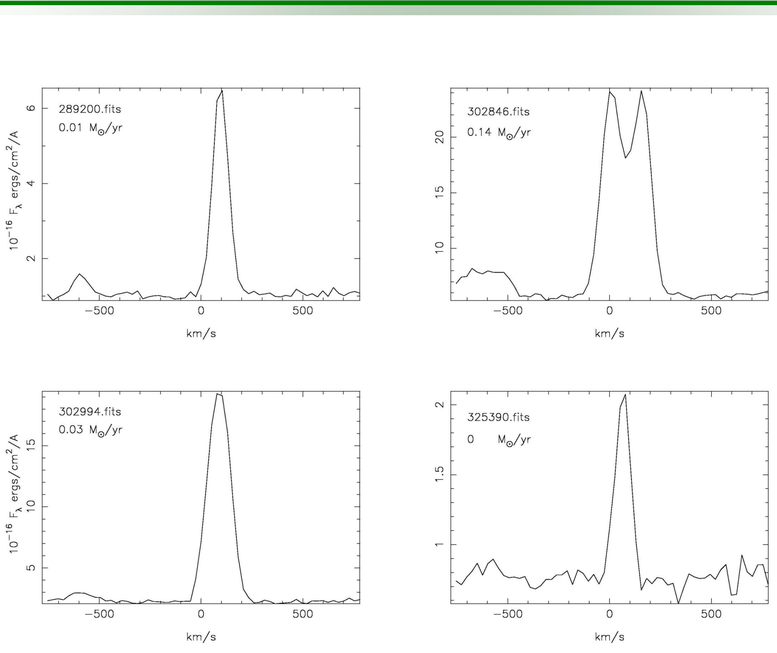
The galaxies are identified by their GAMA number.



Galaxies in poor clusters

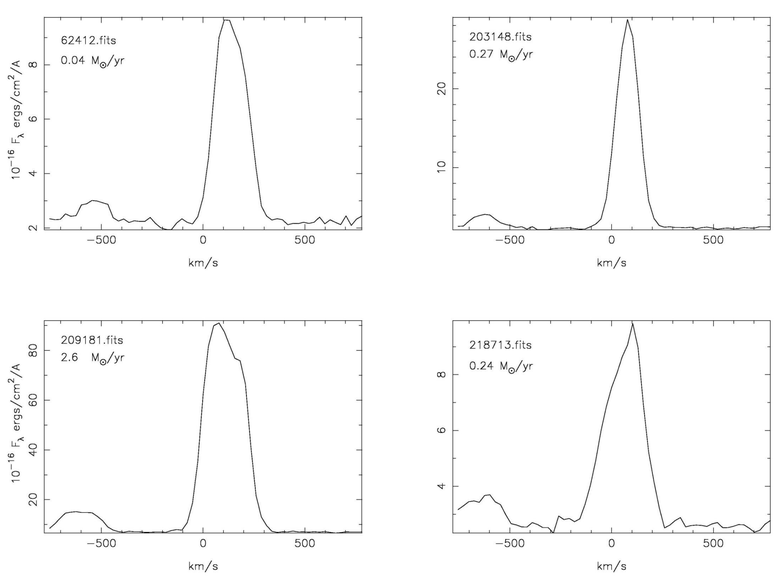
These galaxies are from the clusters MKW1s and 4.



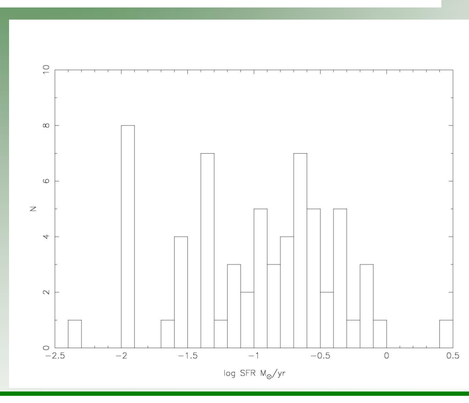


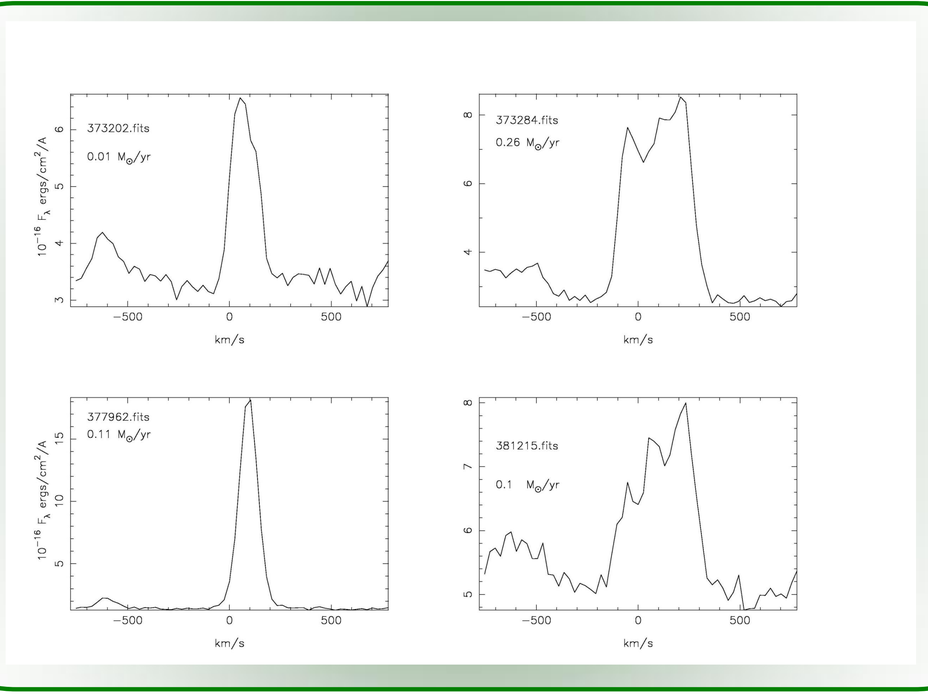
More galaxies from the same clusters.

SFRs range over a factor of 300



GAMA 209181 has the highest SFR in the EDR.
It is a Milky Way sized galaxy with a much higher SFR than our own galaxy.
At the right we see the distribution of SFRs in this sample.





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sami galaxy survey

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