

Metal-THINGS

A spatially resolved analysis of the Dust-to-gas ratio (DGR), CO-to-H₂ conversion factor (α_{CO}) and metallicity (Z) for low mass galaxies

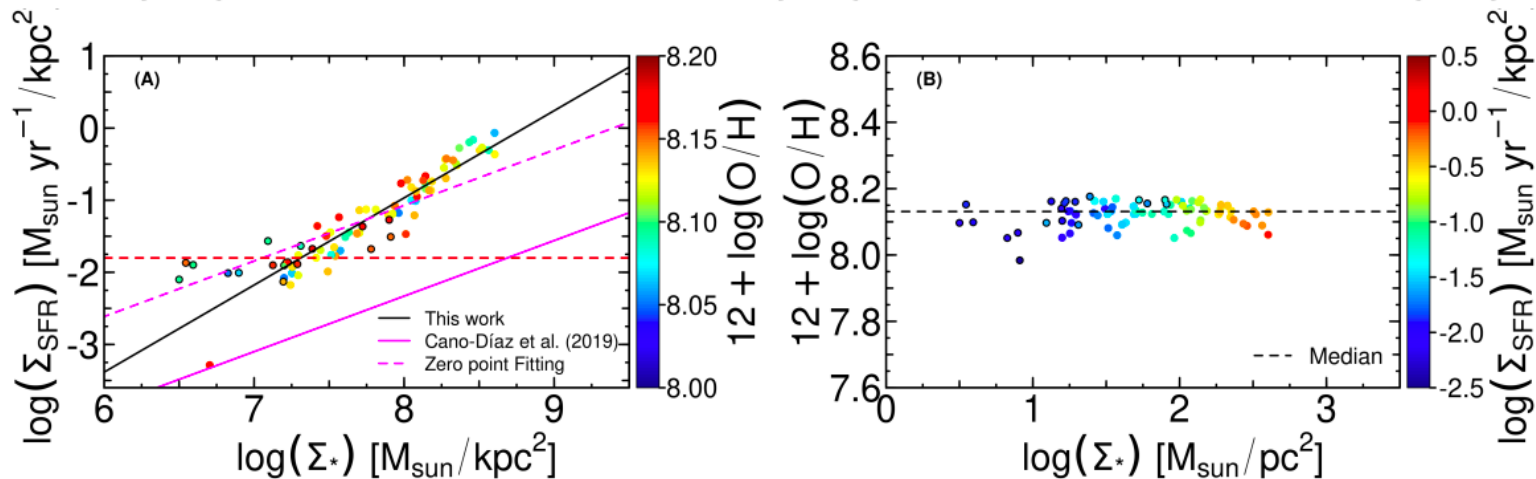
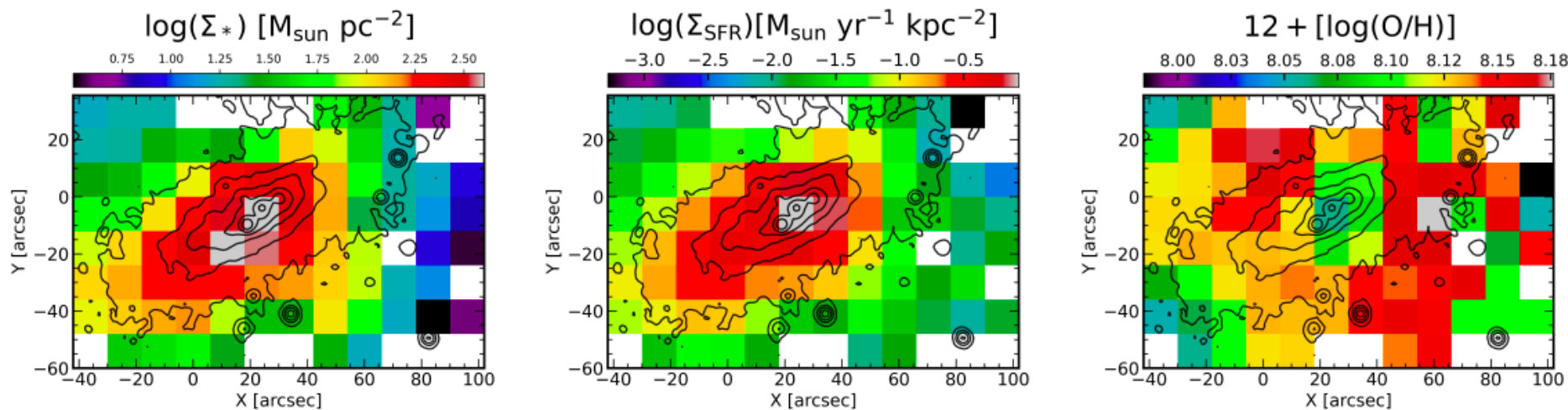
Luis Enrique Garduño Puga



UNIVERSIDAD
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MADRID



Maps and Scaling Relationships

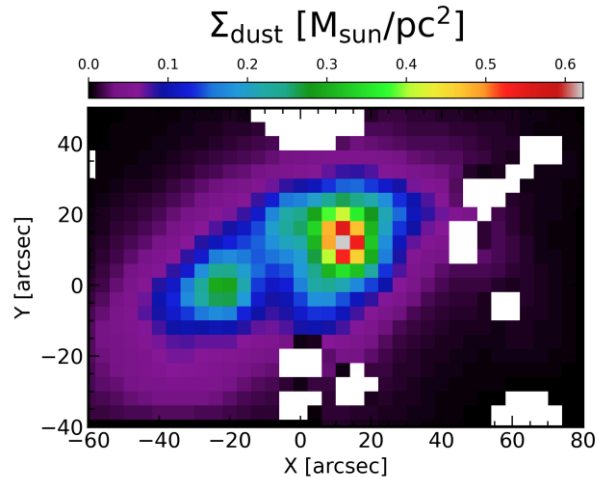
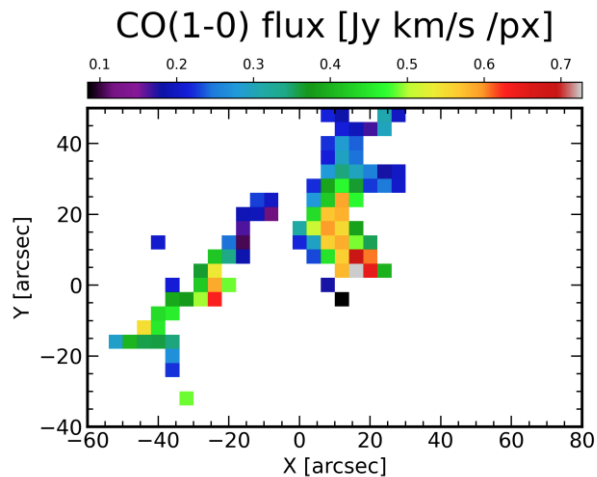
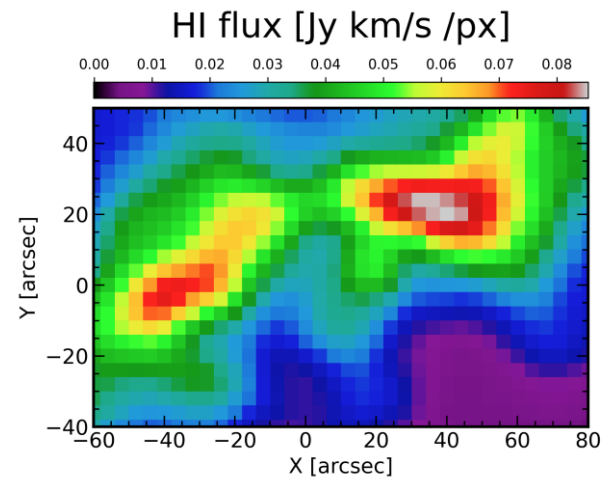


Low mass galaxy sample (Metal-THINGS)

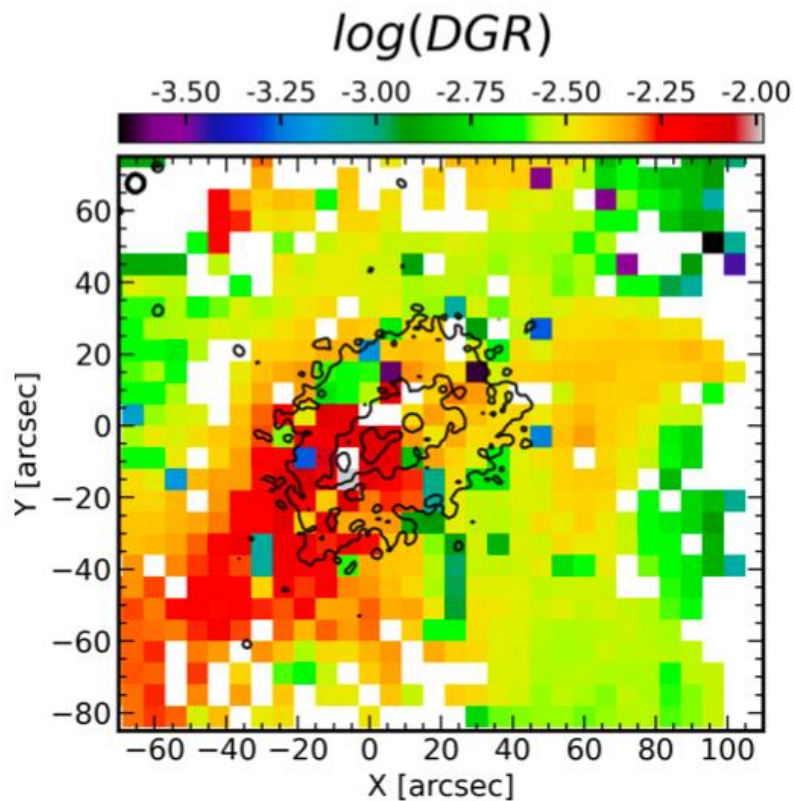
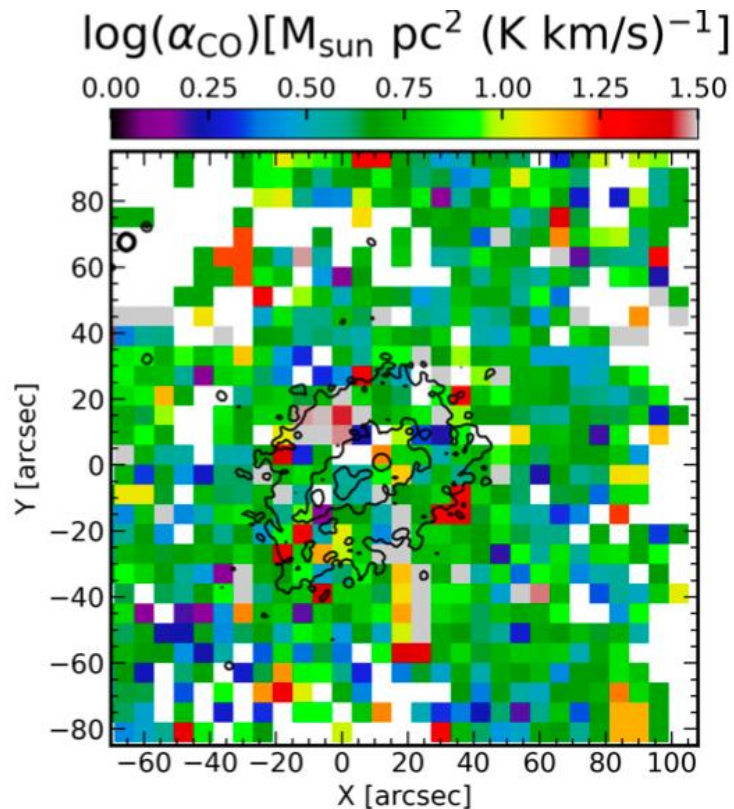
Name	Distance [Mpc]	log(M) [$M_{\odot}$]	log(SFR) [$M_{\odot}/\text{yr}$]
DDO 53	3.6	6.9	-2.09
DDO 154	4.0	7.07	-2.28
Holmberg I	4.0	7.63	-2.05
M81 DwB	8.7	7.81	-1.98
Holmberg II	3.5	8.2	-1.27
NGC 4214	2.9	8.55	-0.91
NGC 1569	3.2	8.61	-0.02
IC 2574	3.9	8.72	-1.04
NGC 4449	4.2	9.03	-0.37
NGC 2976	3.6	9.09	-1.06
NGC 3077	3.8	9.17	-0.97
NGC 2403	3.2	9.57	-0.35
NGC 925	9.2	9.75	-0.17

Methodology

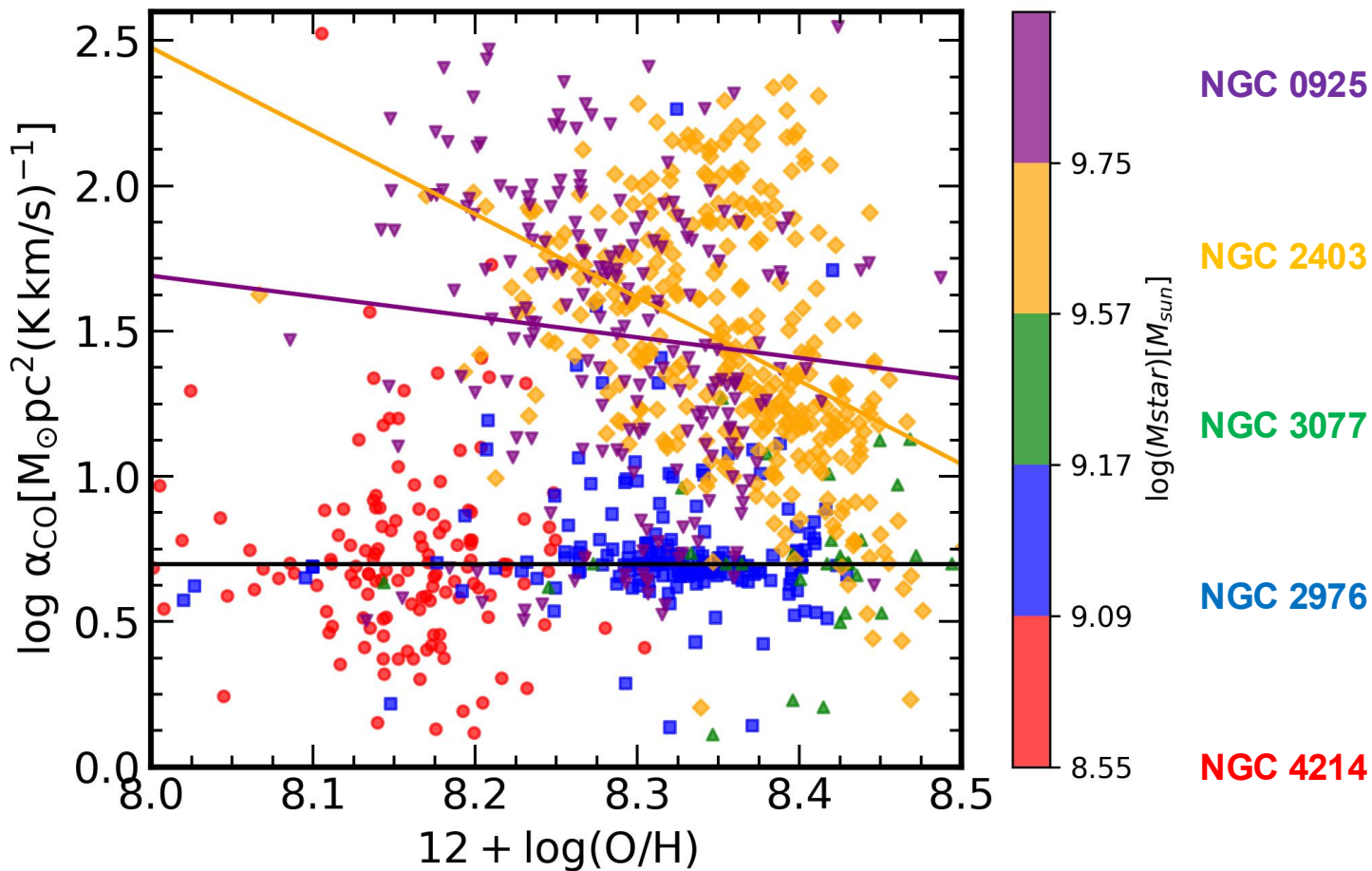
$$M_{gas} = \frac{DGR}{M_{dust}} = M_{HI} + \alpha_{CO} L_{CO}$$



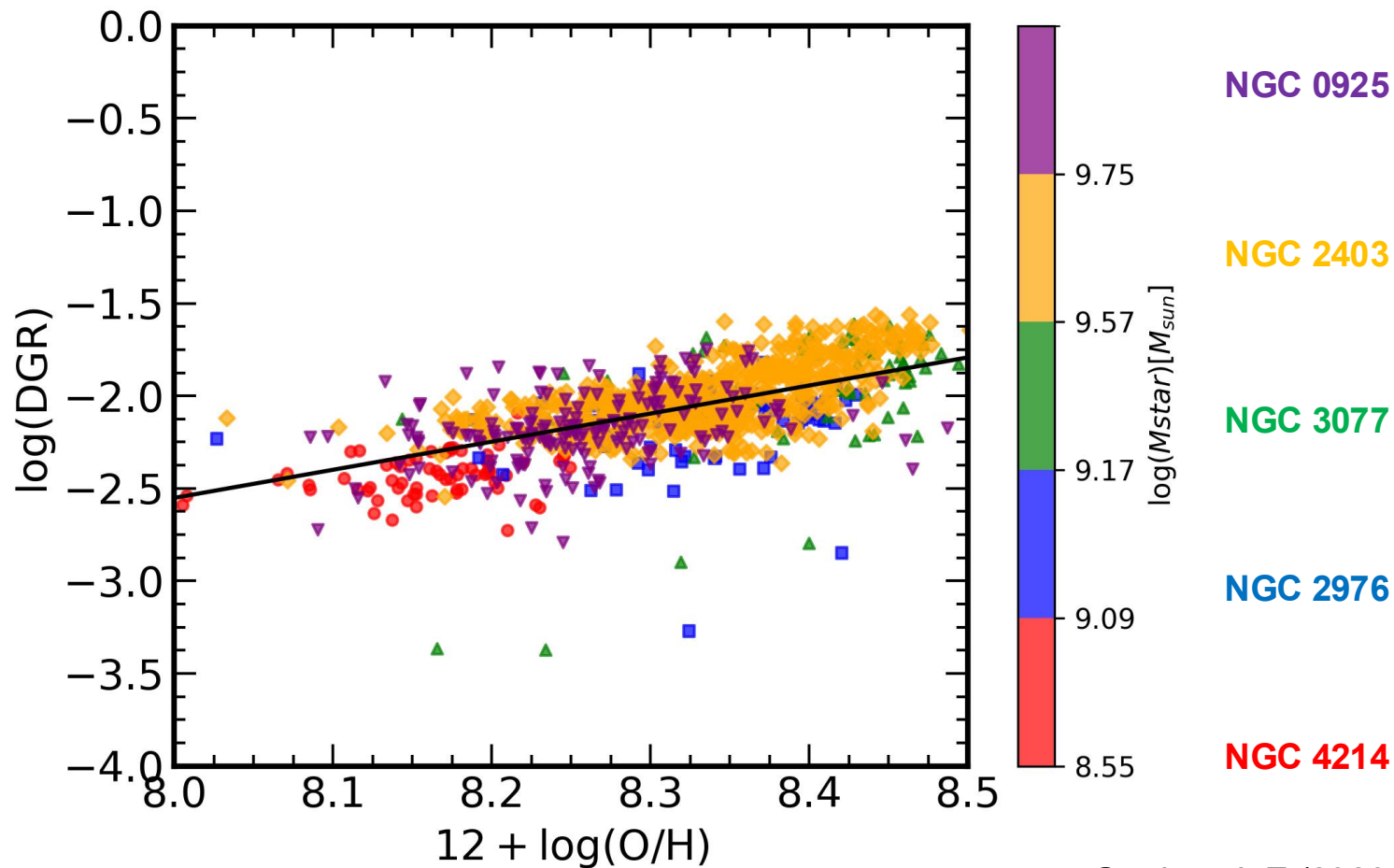
Results



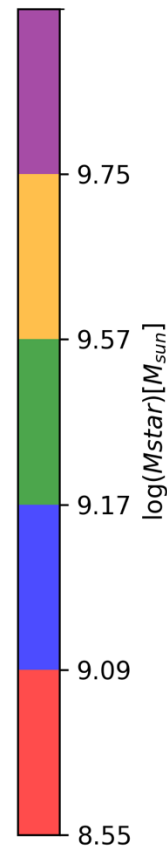
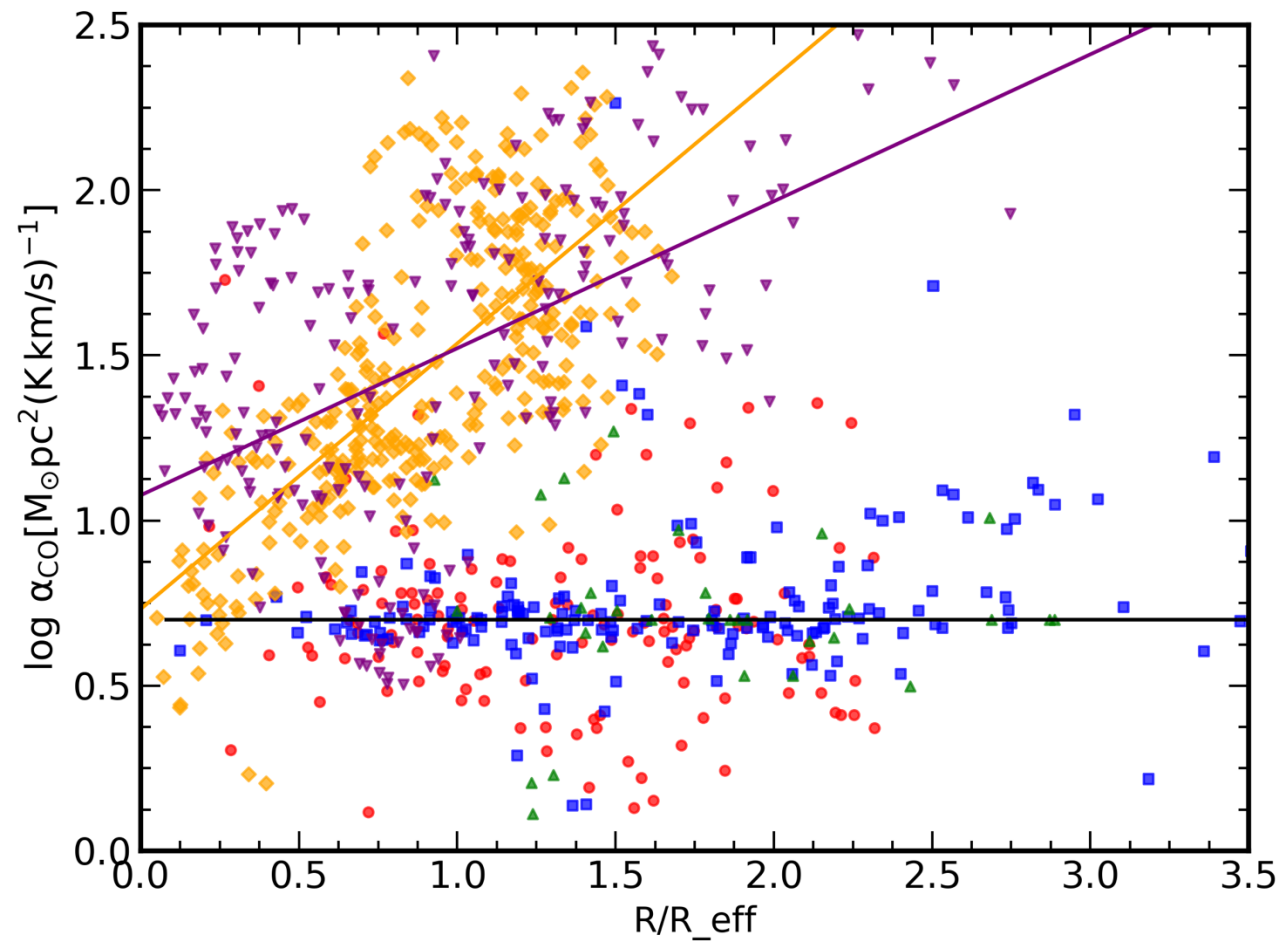
Results



Results



Results



NGC 0925

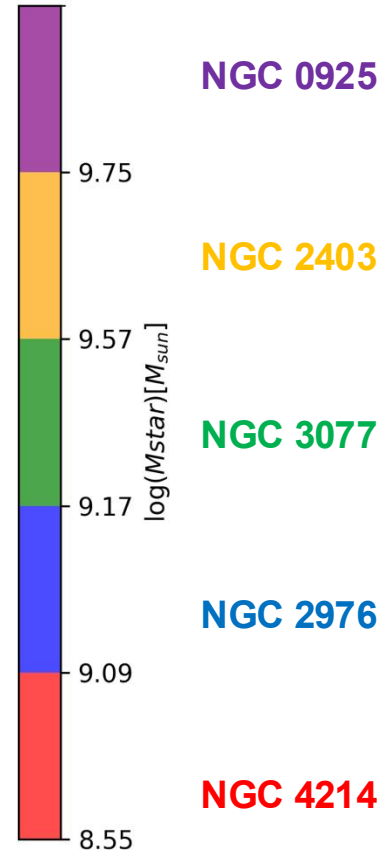
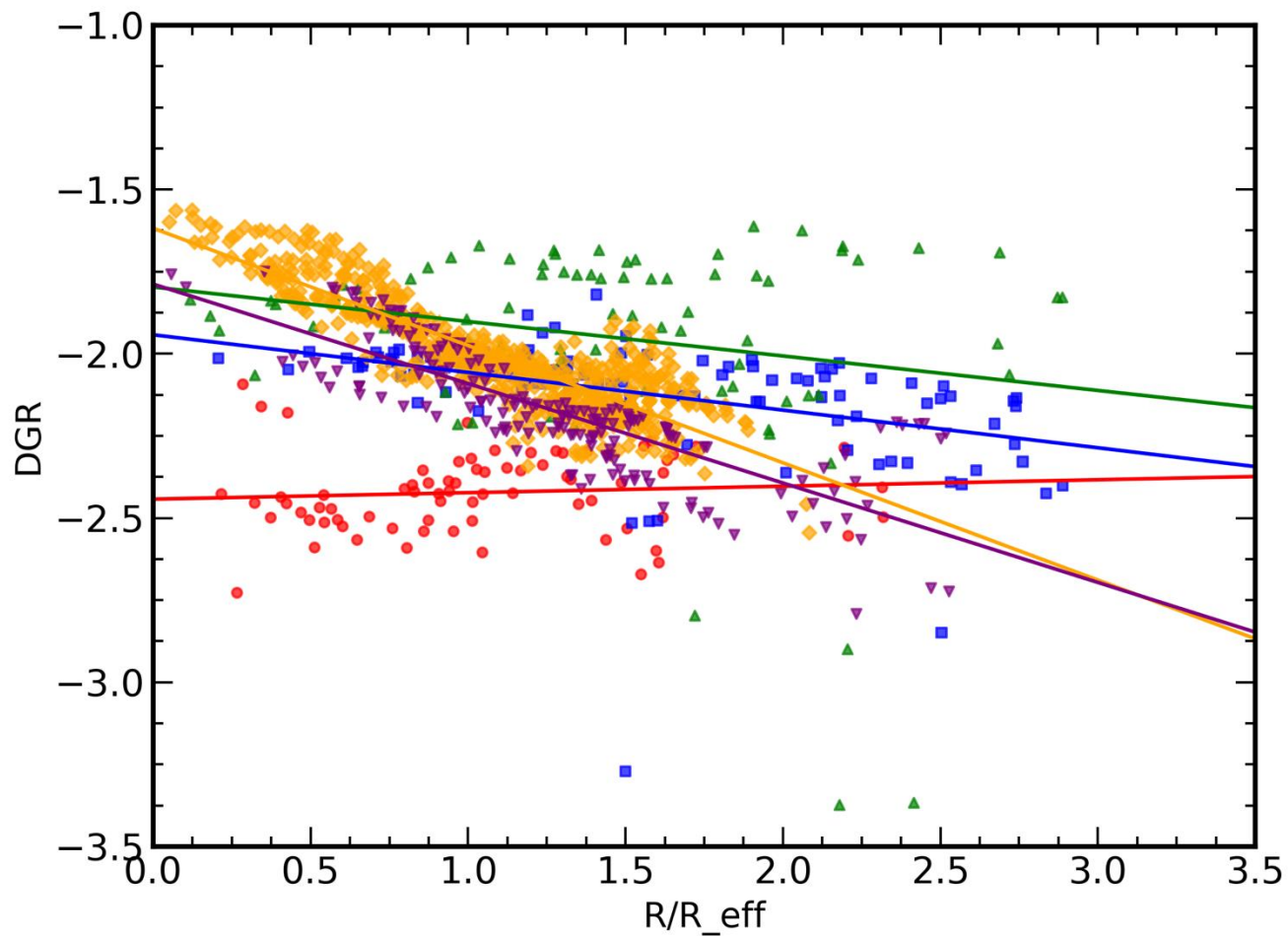
NGC 2403

NGC 3077

NGC 2976

NGC 4214

Results

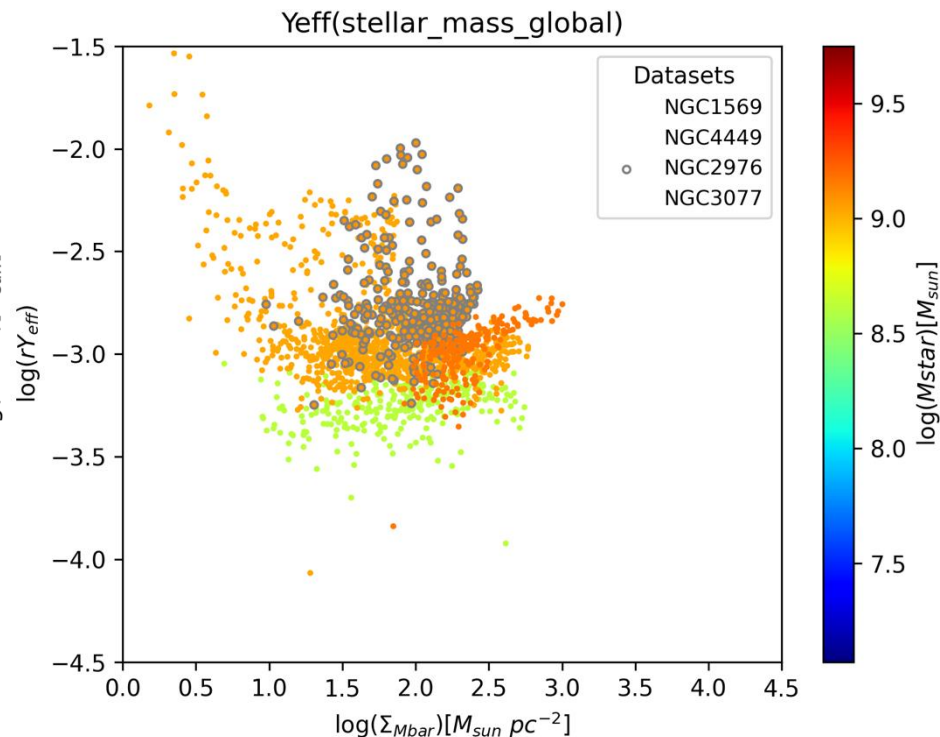
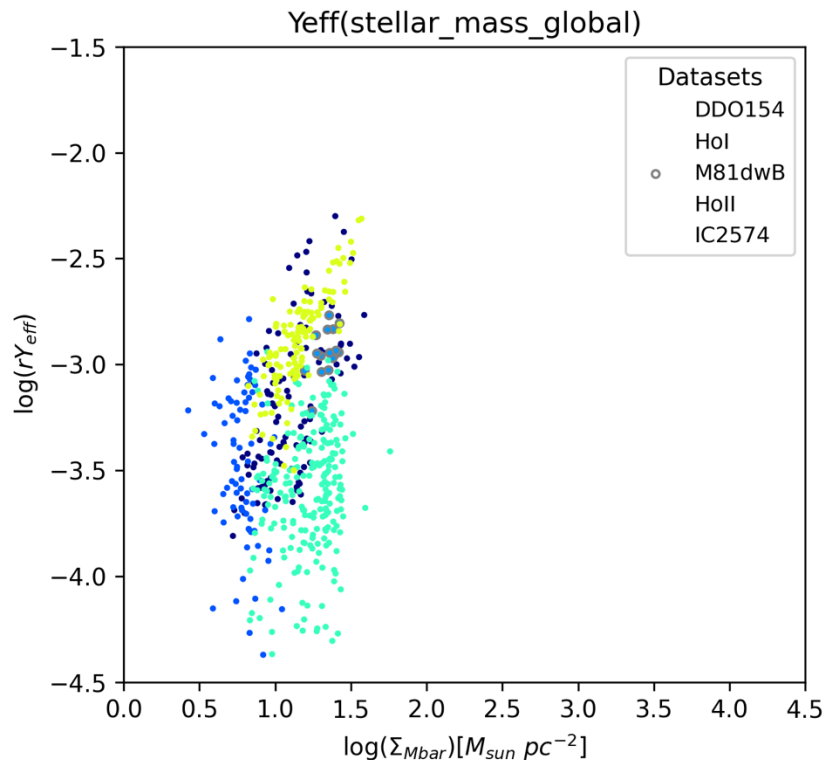


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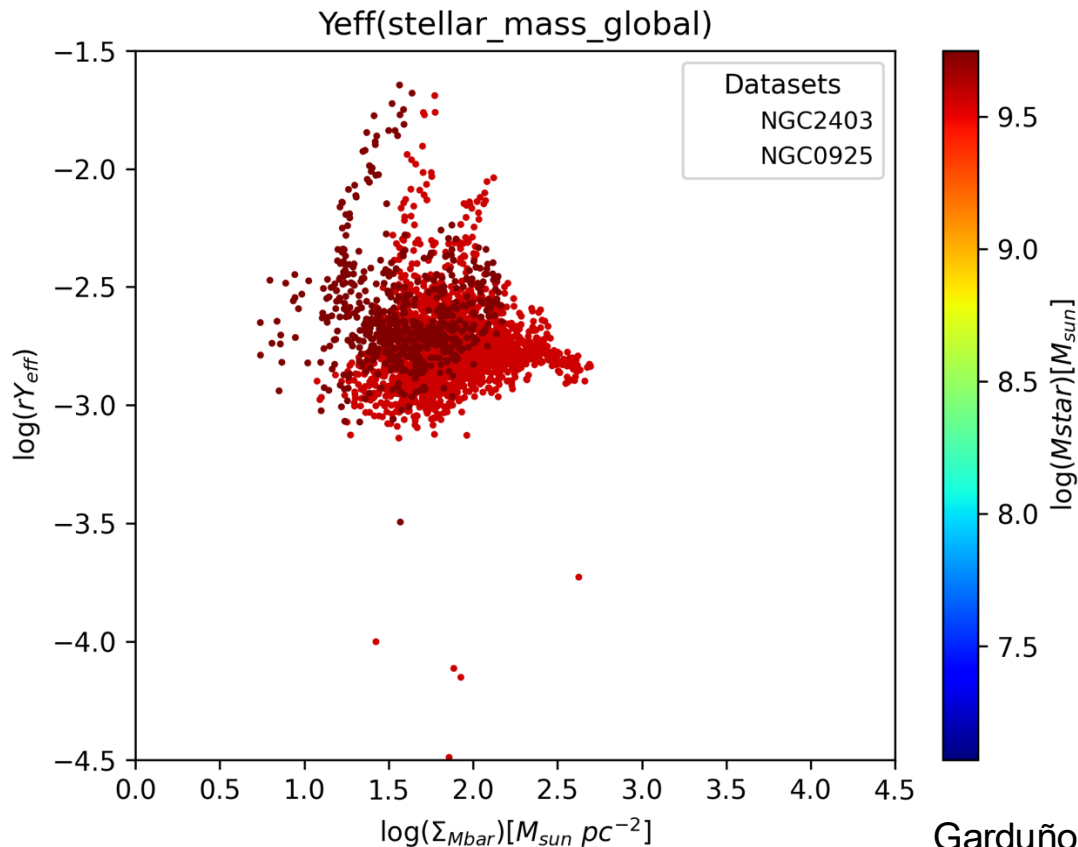
Future work

$$\mu = \frac{\Sigma_{gas}}{\Sigma_{gas} + \Sigma_*} \quad Y_{eff} = \frac{Z_{gas}}{\ln(1/\mu)}$$



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Thanks!!

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