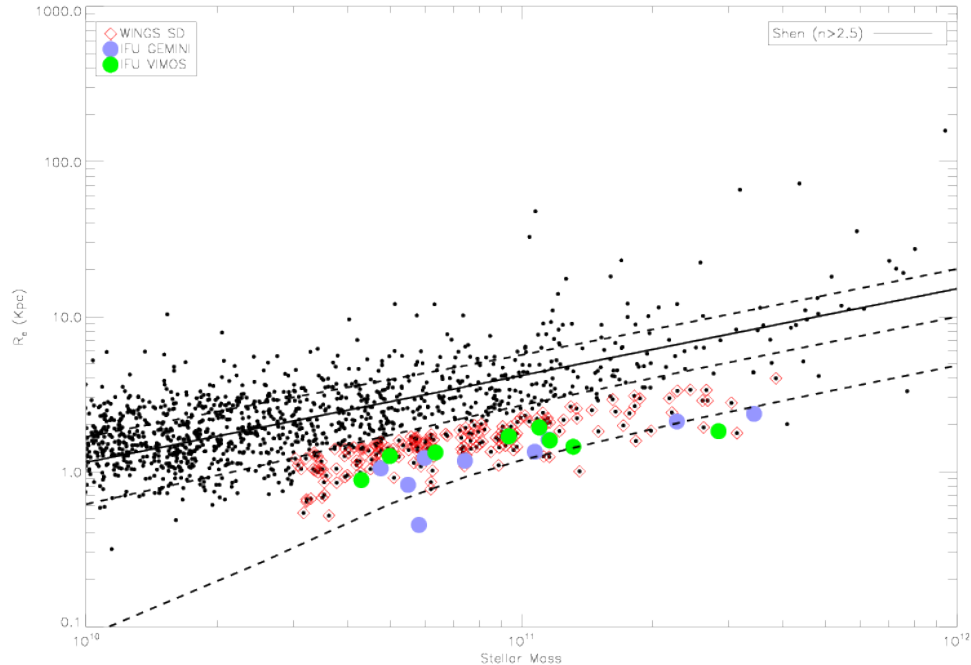# Kinematics of superdense galaxies in clusters

A. Moretti, B. Poggianti, D. Bettoni, M. Cappellari, G. Fasano & the WINGS team

SDGs sample selection

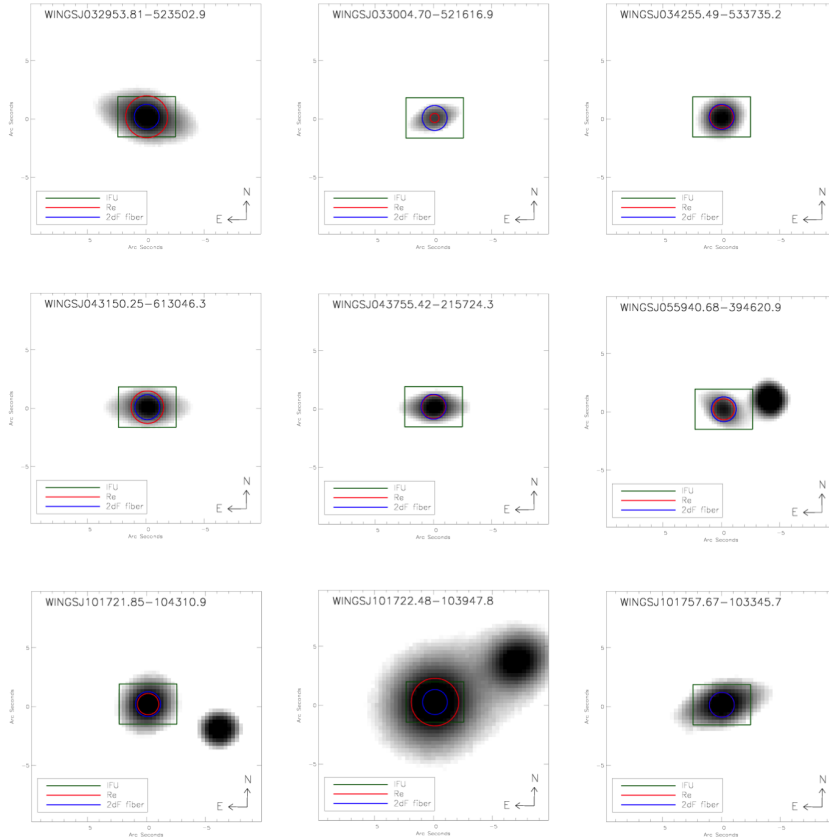SDGs represent 22% of massive galaxies in low-z clusters (WINGS)
Masses: from SED fitting (fiber spectroscopy)
Radii: GASPHOT tool

Ages: very old

-> key tool to test merging scenario and size increase in ETGs!
(Valentinuzzi et al. 2010, Poggianti et al, 2013a, Poggianti et al, 2013b)

ID	V	(B-V)[5kpc]	M	R_e	R_e[kpc]	μ_e	n_v	Redshift
WINGSJ032953.81-523502.9	15.67	1.16	11.454	2.55	2.958	19.091	1.661	0.062
WINGSJ033004.70-521616.9	17.47	1.06	10.8414	0.87	1.009	17.341	4.136	0.060
WINGSJ034255.49-533735.2	16.77	1.17	10.9201	1.10	1.262	18.804	2.665	0.061
WINGSJ043150.25-613046.3	16.22	1.11	11.2375	2.35	2.696	18.989	2.917	0.057
WINGSJ055940.68-394620.9	16.79	1.10	10.8024	1.27	1.150	18.851	3.555	0.051
WINGSJ043755.42-215724.3	16.50	1.09	11.1866	1.59	2.065	18.646	2.520	0.071
WINGSJ101721.85-104310.9	17.35	1.19	10.7676	0.99	1.132	19.156	2.924	0.060
WINGSJ101722.48-103947.8	15.77	1.25	11.6055	2.20	2.516	19.467	2.929	0.065
WINGSJ101757.67-103345.7	17.22	1.11	10.8985	1.82	2.082	19.320	1.975	0.0547

Observations with GMOS@GEMINI
B600 grism
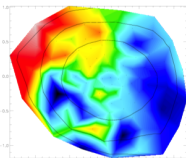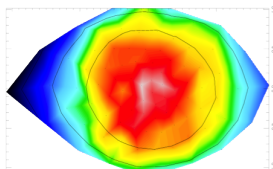1-slit mode -> 3.5" x 5" FoV
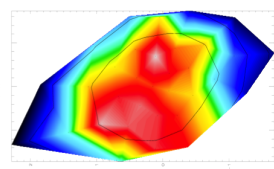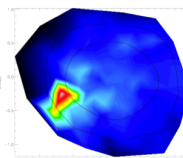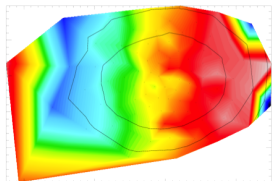Lambda range: 4050-6900
Exptime: 2700s
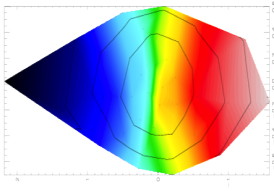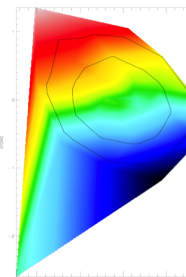spaxel dimension ~0.073"
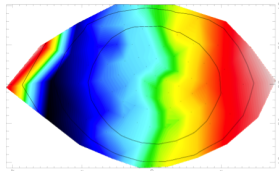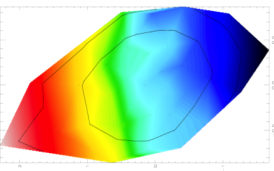
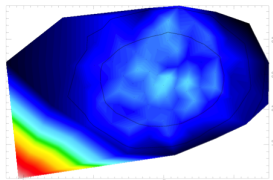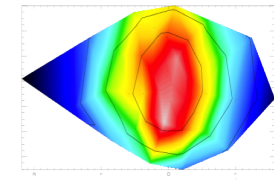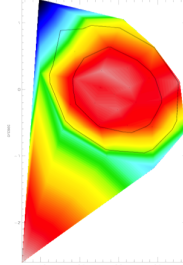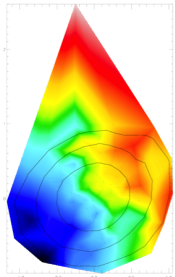301   167   131   262,[188-373]   72,[38-201]   265,[122-659]

344   241   188   238,[81-487]   163,[94-275]   137,[91-272]
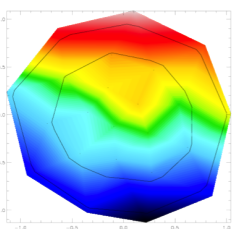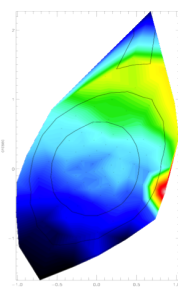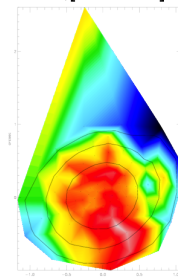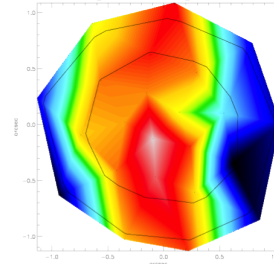
187   156   301   208,[109-281]   232,[163-321]   137,[37-527]
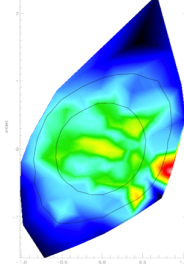
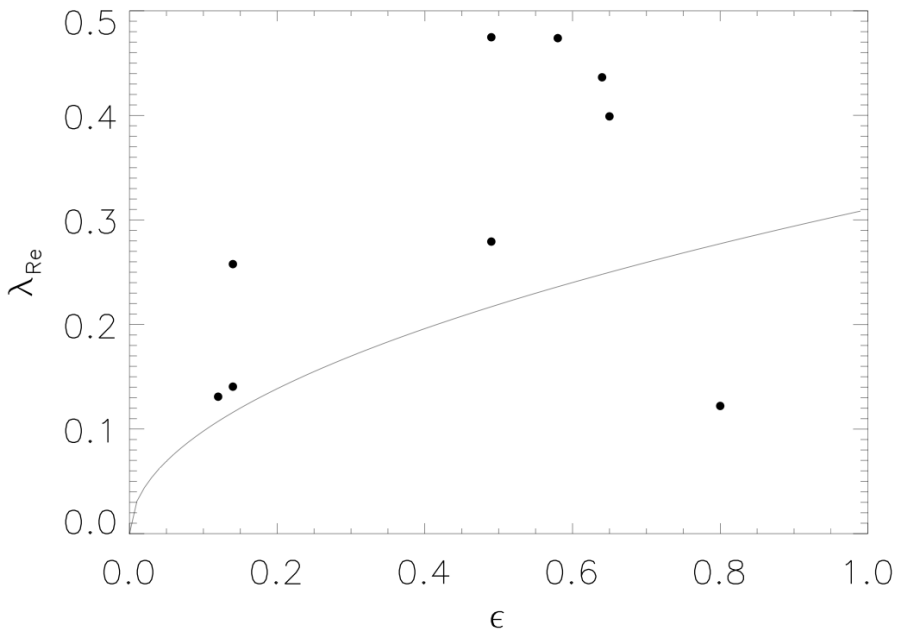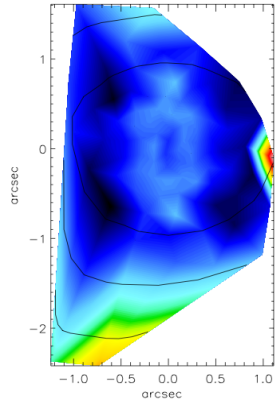WINGS SD velocity maps   WINGS SD velocity dispersion maps
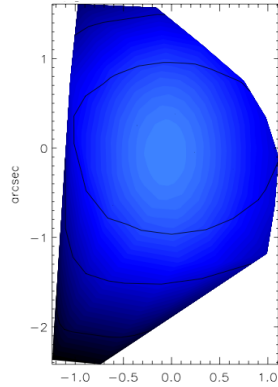
Alessia Moretti

SDgs are fast rotators
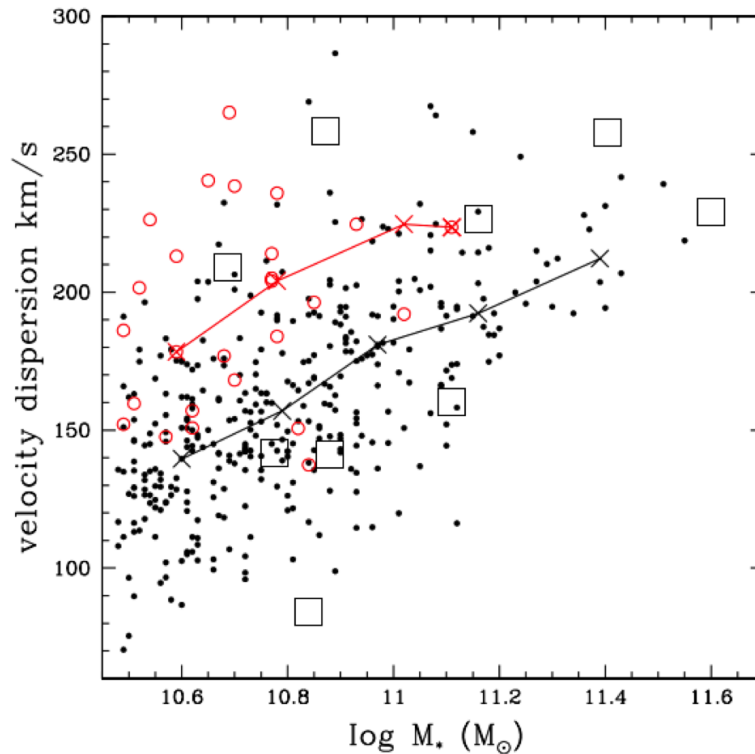
SDgs have on average higher velocity dispersions

Data

Model

WINGSJ055940.68-394620.9
JAM model self-consistent (mass follows light)-> Varying just inclination and anisotropy

Total mass consistent with the one derived from spectrophotometry

Work in progress to derive all M/L, DM fraction, IMF determination