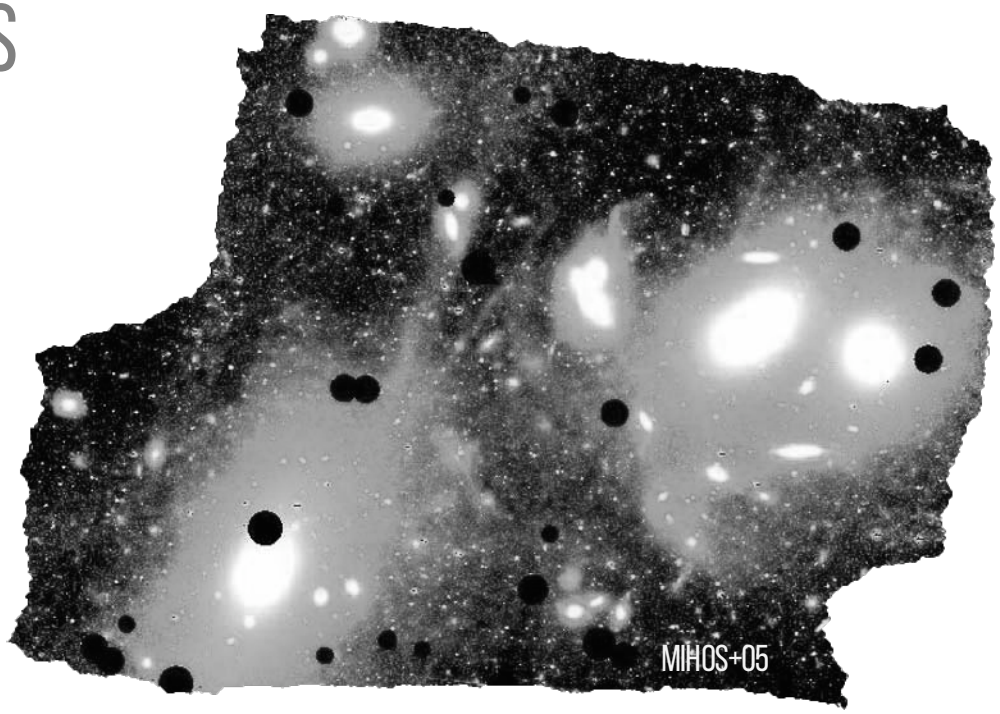
DIFFUSE DWARFS, DENSE CLUSTERS,

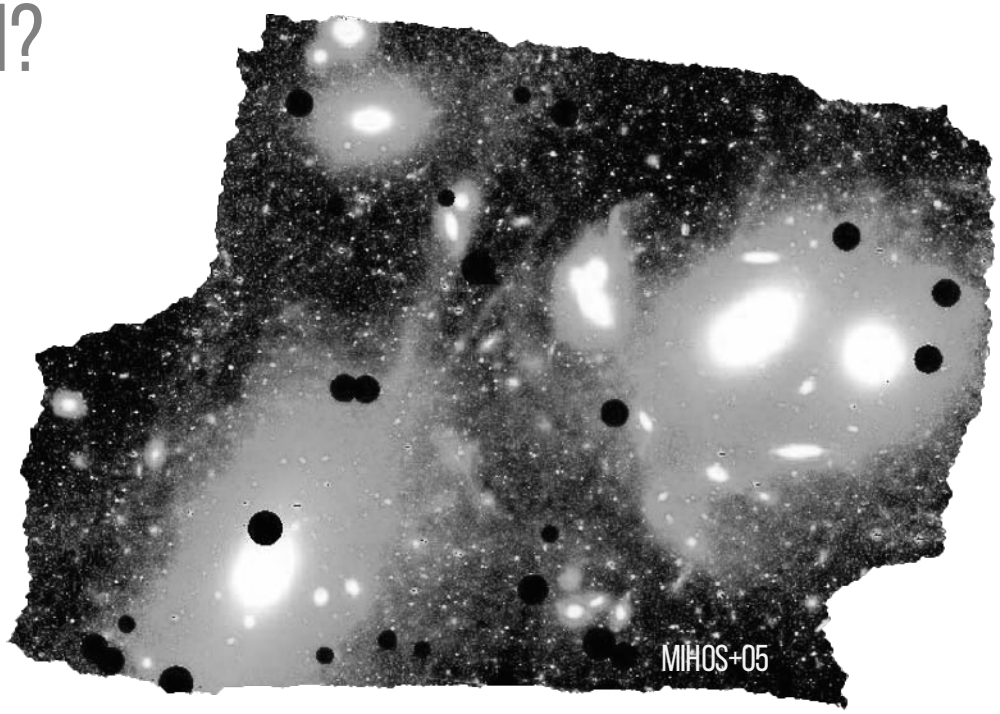
AND WHAT IT ALL MEANS



RUBÉN SÁNCHEZ-JANSSEN (EDINBURGH)
AND THE NGVS TEAM

DIFFUSE DWARFS, DENSE CLUSTERS.

WHAT DOES IT ALL MEAN?

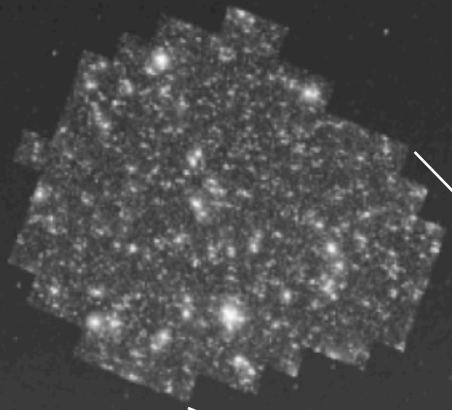


RUBÉN SÁNCHEZ-JANSSEN (EDINBURGH)
AND THE NGVS TEAM

NGVS

THE NEXT GENERATION VIRGO CLUSTER SURVEY

FERRARESE+12

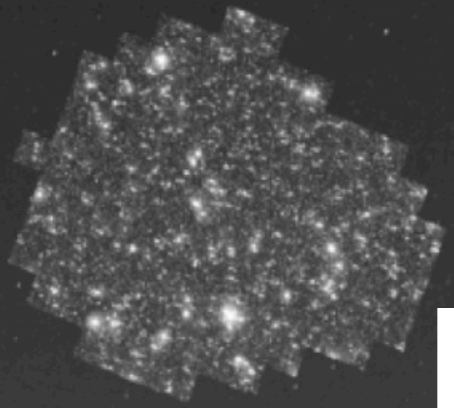


104 DEG^2
UGRIZ+K
FWHM$_i$ = 0.6”
G = 26 MAG
$\mu_{e,G}$ = 27.5 MAG/ARCSEC^2

CFHT

NGVS

THE NEXT GENERATION VIRGO CLUSTER SURVEY



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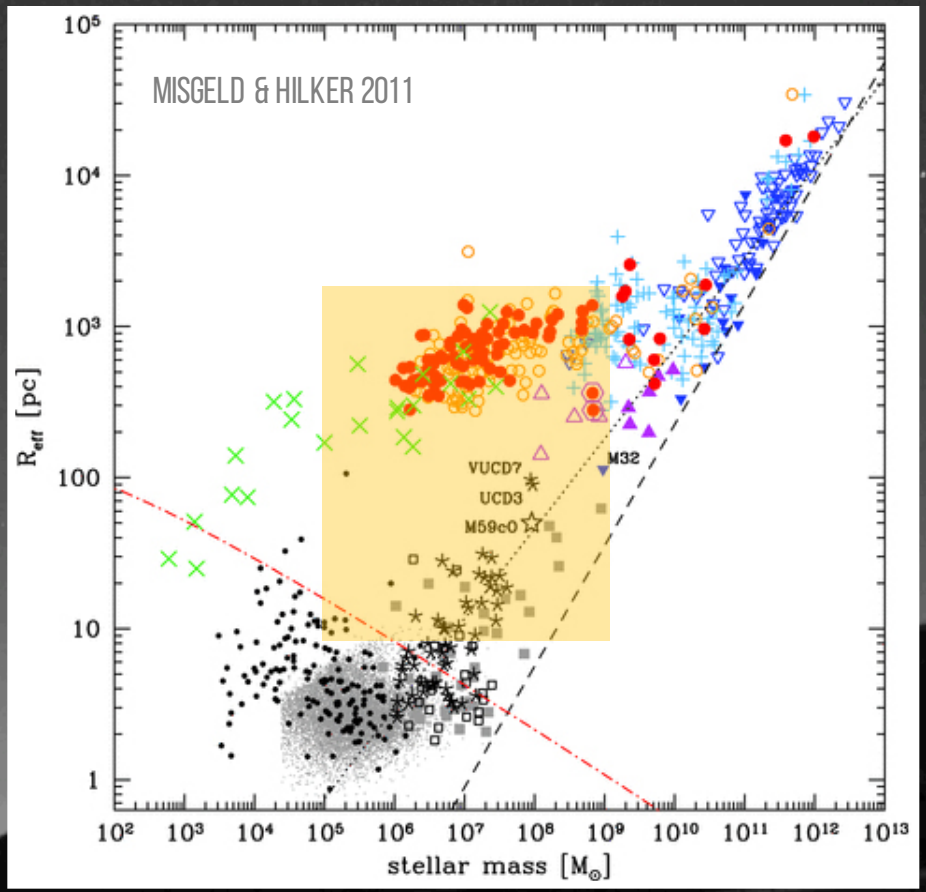
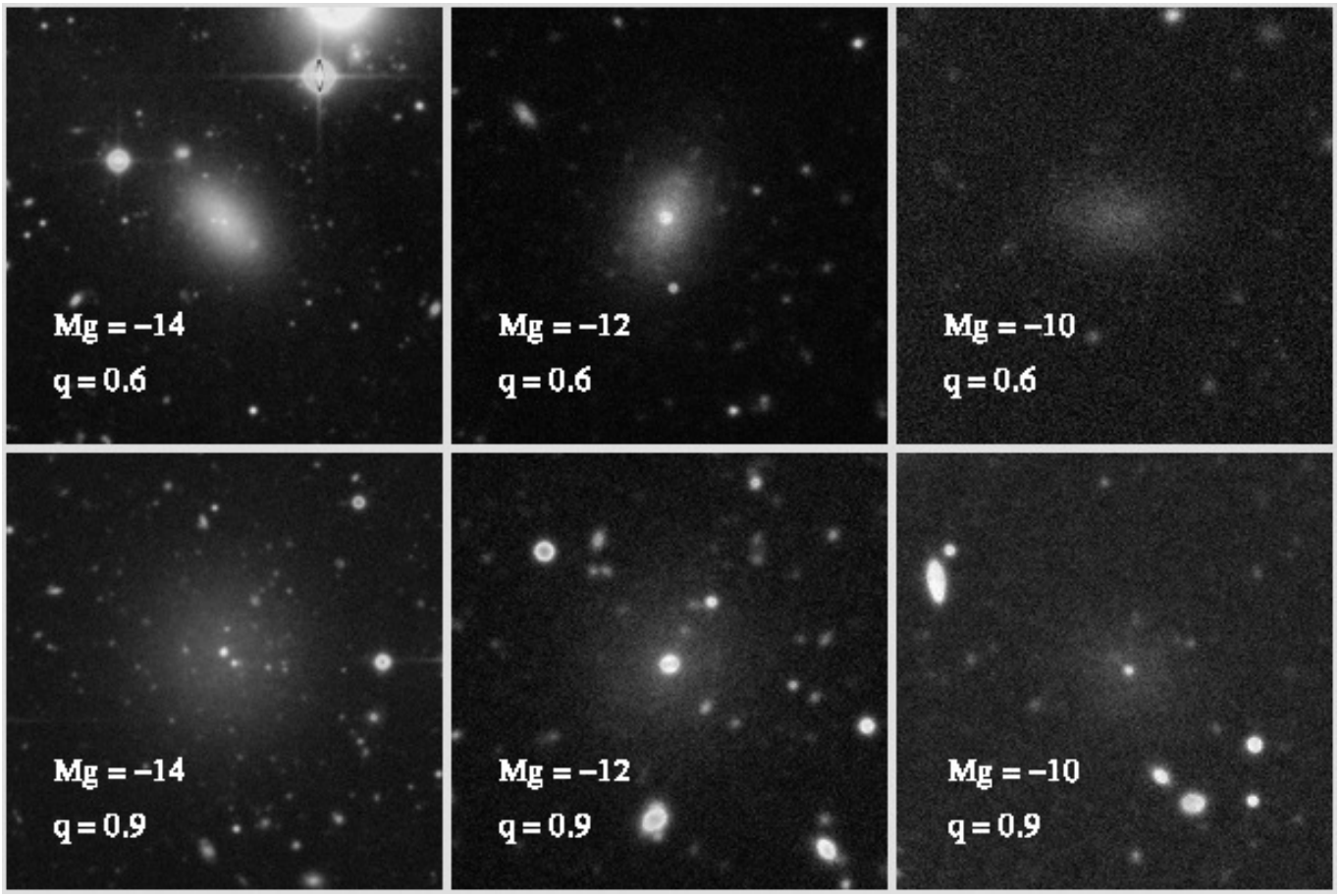
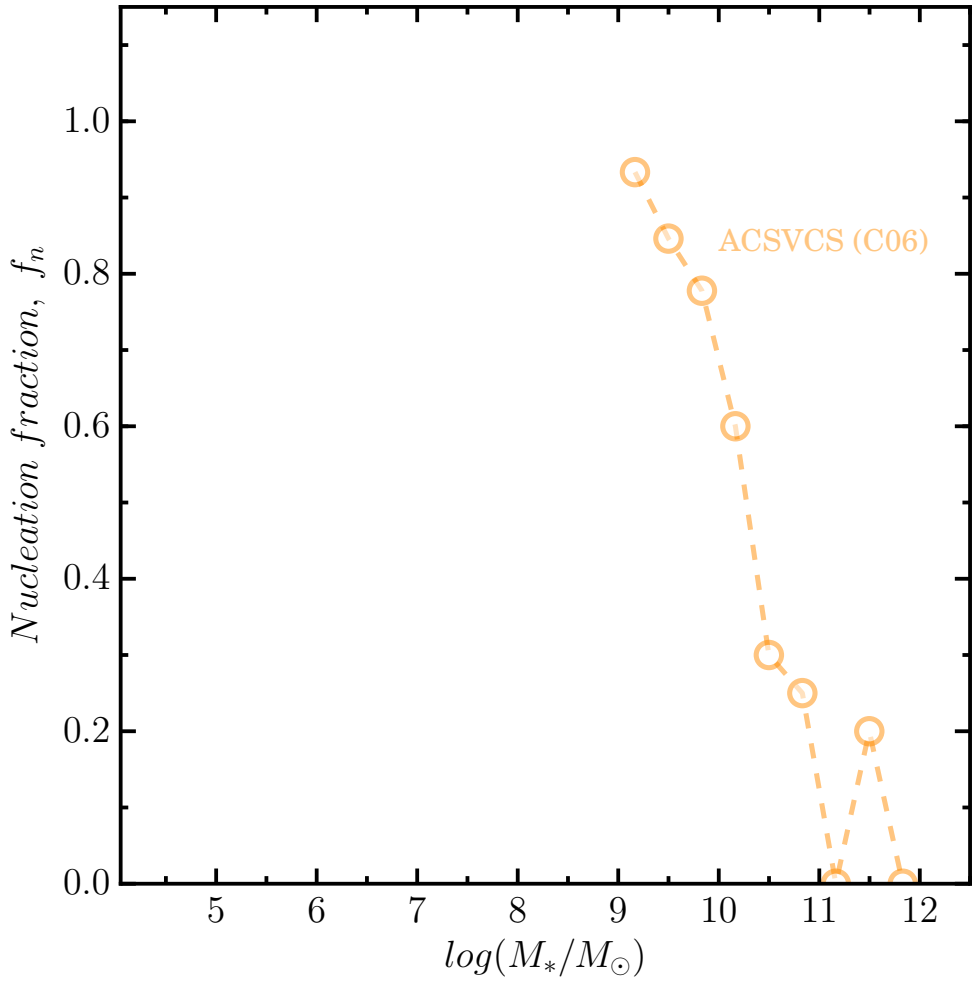



Mg = −14
q = 0.6
Mg = −12
q = 0.6
Mg = −10
q = 0.6
Mg = −14
q = 0.9
Mg = −12
q = 0.9
Mg = −10
q = 0.9

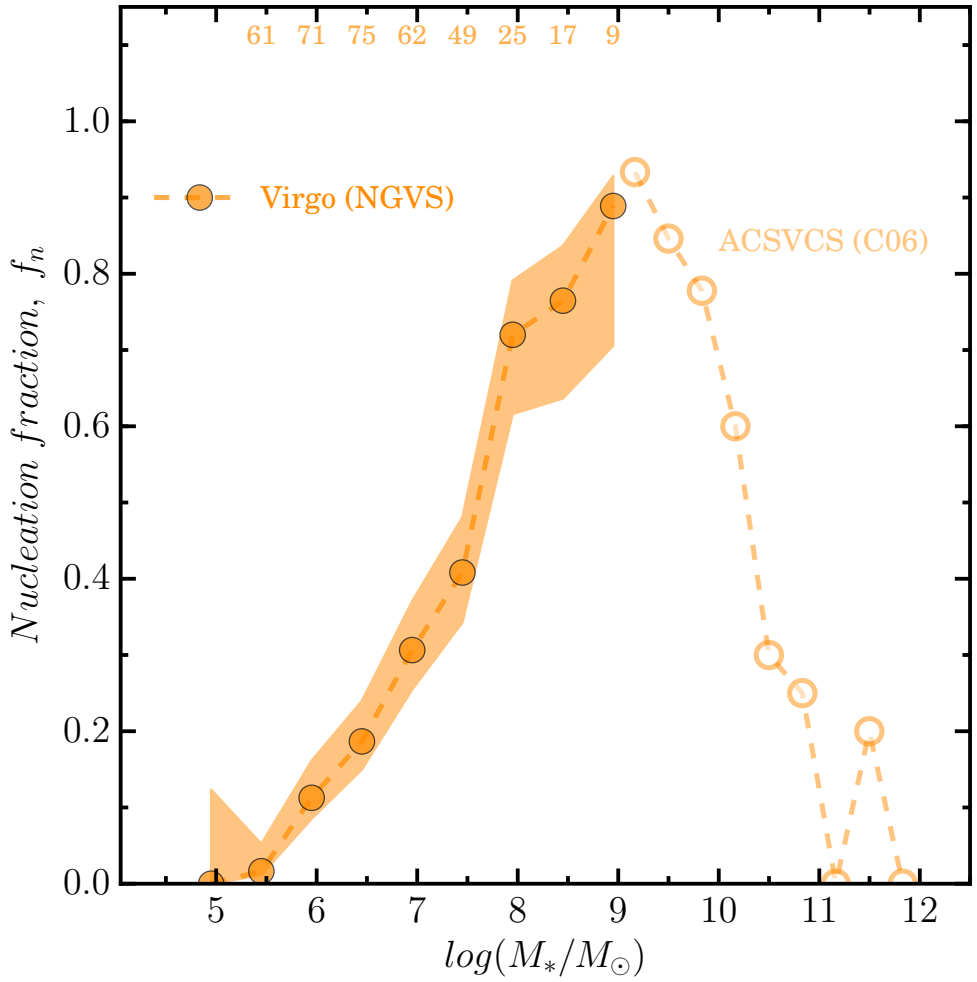
NUCLEATION FRACTION IS A STRONG FUNCTION OF GALAXY MASS



SHARP DROP AT HIGH MASSES
PROBABLY CAUSED BY SMBHs

SÁNCHEZ-JANSSEN+17, SUBMITTED

NUCLEATION FRACTION IS A STRONG FUNCTION OF GALAXY MASS



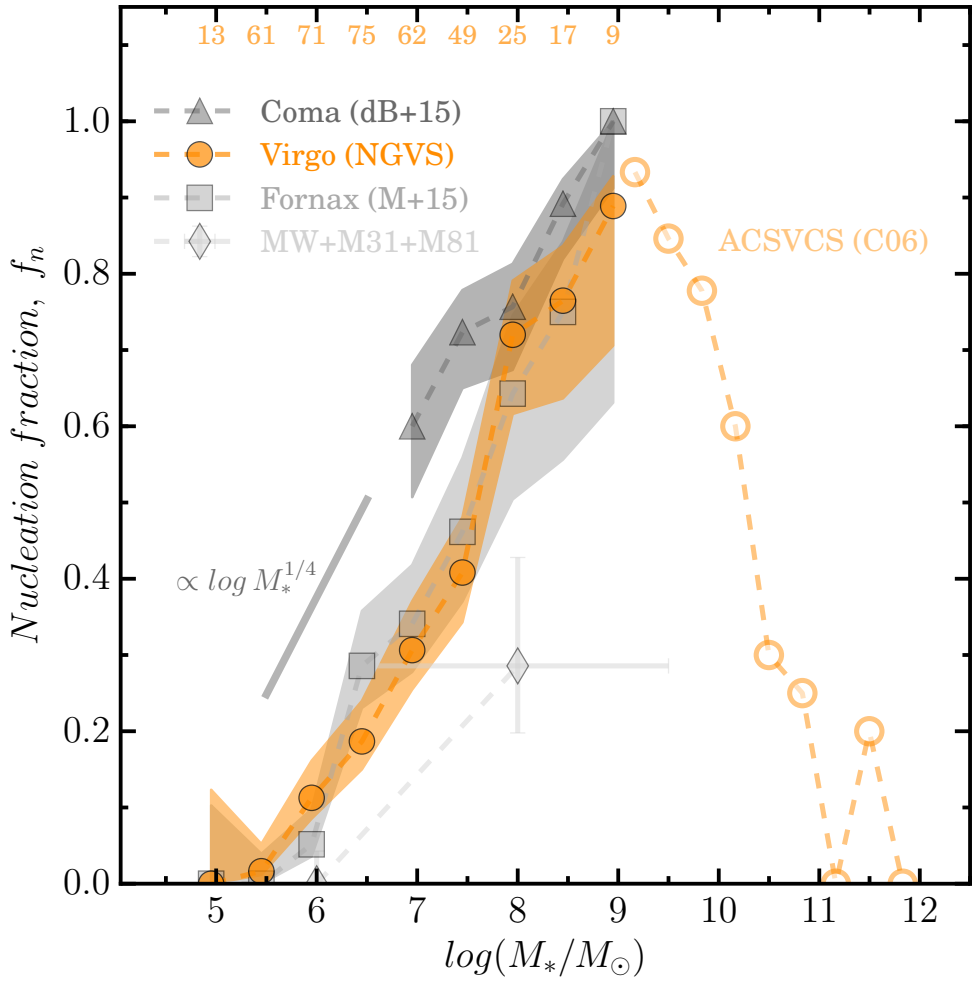
SHARP DROP AT HIGH MASSES PROBABLY CAUSED BY SMBHs

FOR DWARFS, PROBABLY LOW INITIAL NUMBER OF DENSE STAR CLUSTERS

SÁNCHEZ-JANSSEN+17, SUBMITTED

NUCLEATION FRACTION IS A STRONG FUNCTION OF GALAXY MASS

AND TO 2ND ORDER ALSO OF ENVIRONMENT



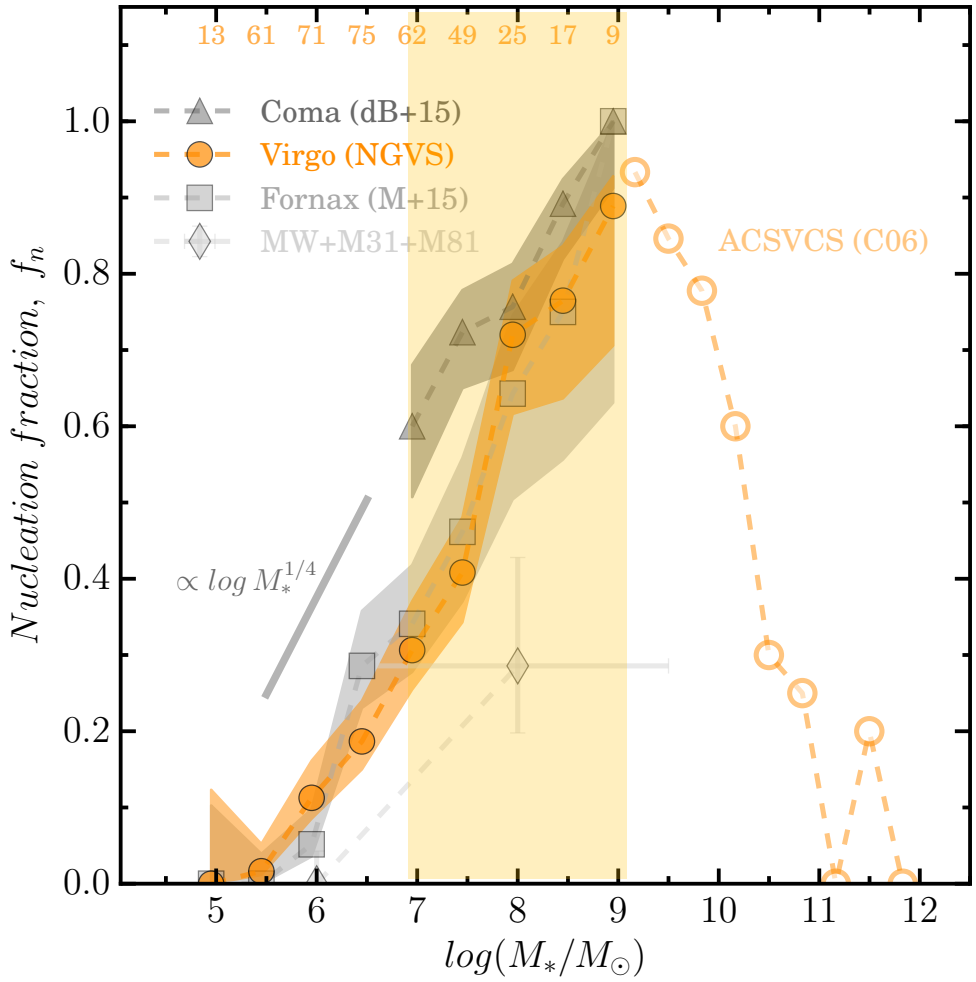
FOR DWARFS, PROBABLY
LOW INITIAL NUMBER OF
DENSE STAR CLUSTERS

NSC FORMATION IS FAVORED
IN HIGH-DENSITY ENVIRONMENTS

SÁNCHEZ-JANSSEN+17, SUBMITTED

NUCLEATION FRACTION IS A STRONG FUNCTION OF GALAXY MASS

AND TO 2ND ORDER ALSO OF ENVIRONMENT



77% COMA
53% VIRGO
29% GROUPS

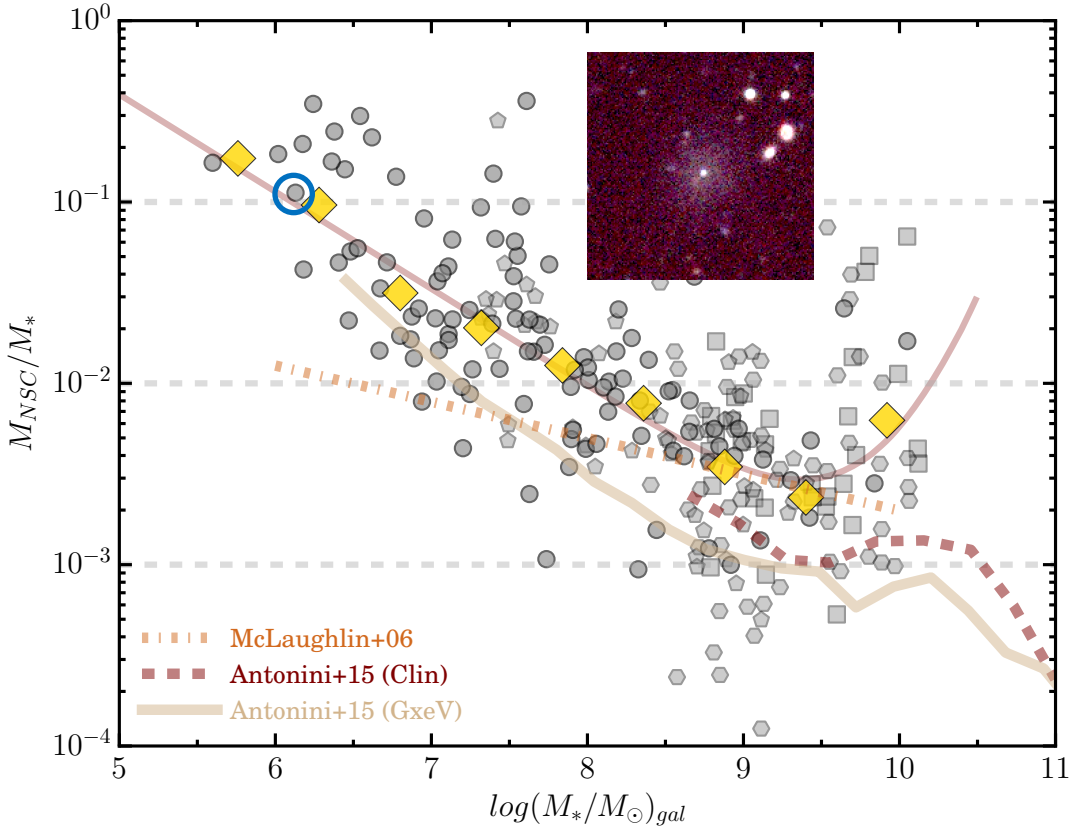
FOR DWARFS, PROBABLY LOW INITIAL NUMBER OF DENSE STAR CLUSTERS

NSC FORMATION IS FAVORED IN HIGH-DENSITY ENVIRONMENTS

SÁNCHEZ-JANSSEN+17, SUBMITTED

THE M_{NSC}/M_* RATIO DEPENDS HEAVILY ON GALAXY MASS

FAINT GALAXIES HOST EXTREMELY PROMINENT NUCLEI

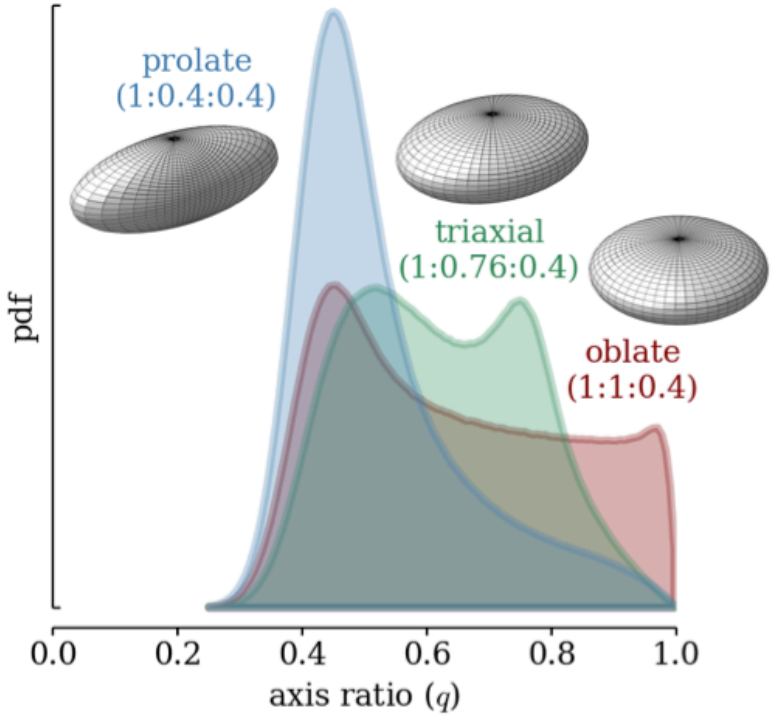


SÁNCHEZ-JANSSEN+17, SUBMITTED

NUCLEATED FAINT DWARFS ARE THICKER AND ROUNDER

CONSISTENT W/ RESULTS FOR MORE MASSIVE OBJECTS (LISKER+07)

SEE ALSO SÁNCHEZ-JANSSEN+16



$10^6 < M^*/M_\odot < 10^8$

1 : 0.95 : 0.66

1 : 0.88 : 0.55

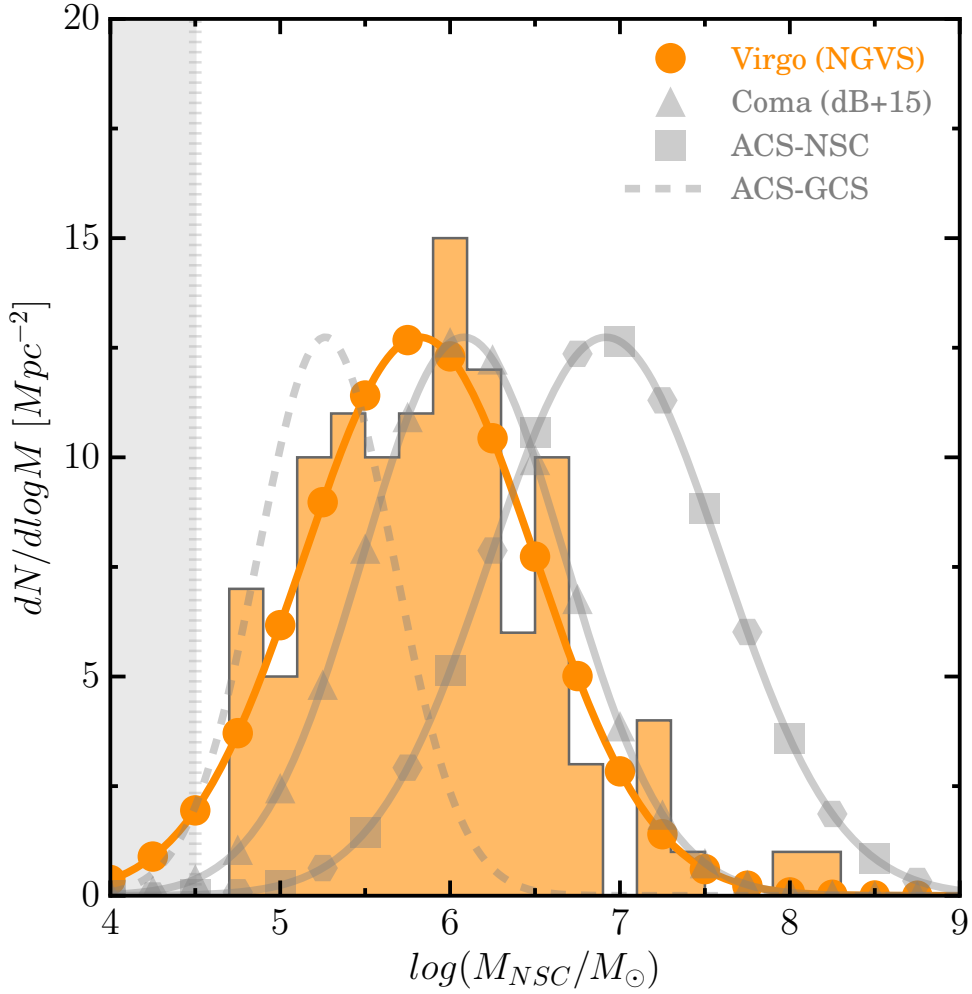
SÁNCHEZ-JANSSEN+, IN PREP

CONCLUSIONS
AND OPEN QUESTIONS

1. GALAXY MASS IS THE MAIN PARAMETER REGULATING NSC OCCURRENCE AND MASS
2. AT THE LOW-MASS END NUCLEATION IS MORE FREQUENT IN DENSER GLOBAL ENVIRONMENTS
3. NUCLEATED AND NON-NUCLEATED (FAINT) GALAXIES ARE STRUCTURALLY DIFFERENT

- HOW DIFFERENT ARE FAINT NSCs FROM 'REGULAR' GCs?
- IMPLICATIONS FOR UCD MASS FUNCTION
- IMPLICATIONS FOR EARLY SFHs (HIGH Σ_{SFR} REQUIRED FOR EFFICIENT CLUSTER FORMATION)

NSC MASS FUNCTION PEAKS AT 3-4X GCMF TURNOVER MASS AND ~0.7 DEX IN DISPERSION



(NO NEED TO BE GAUSSIAN-SHAPED: JUST CONVOLUTION OF NUCLEATION FRACTION WITH NUCLEUS-TO-GALAXY MASS RELATION)