The Ubiquity of Stellar Halos In the Virgo Cluster

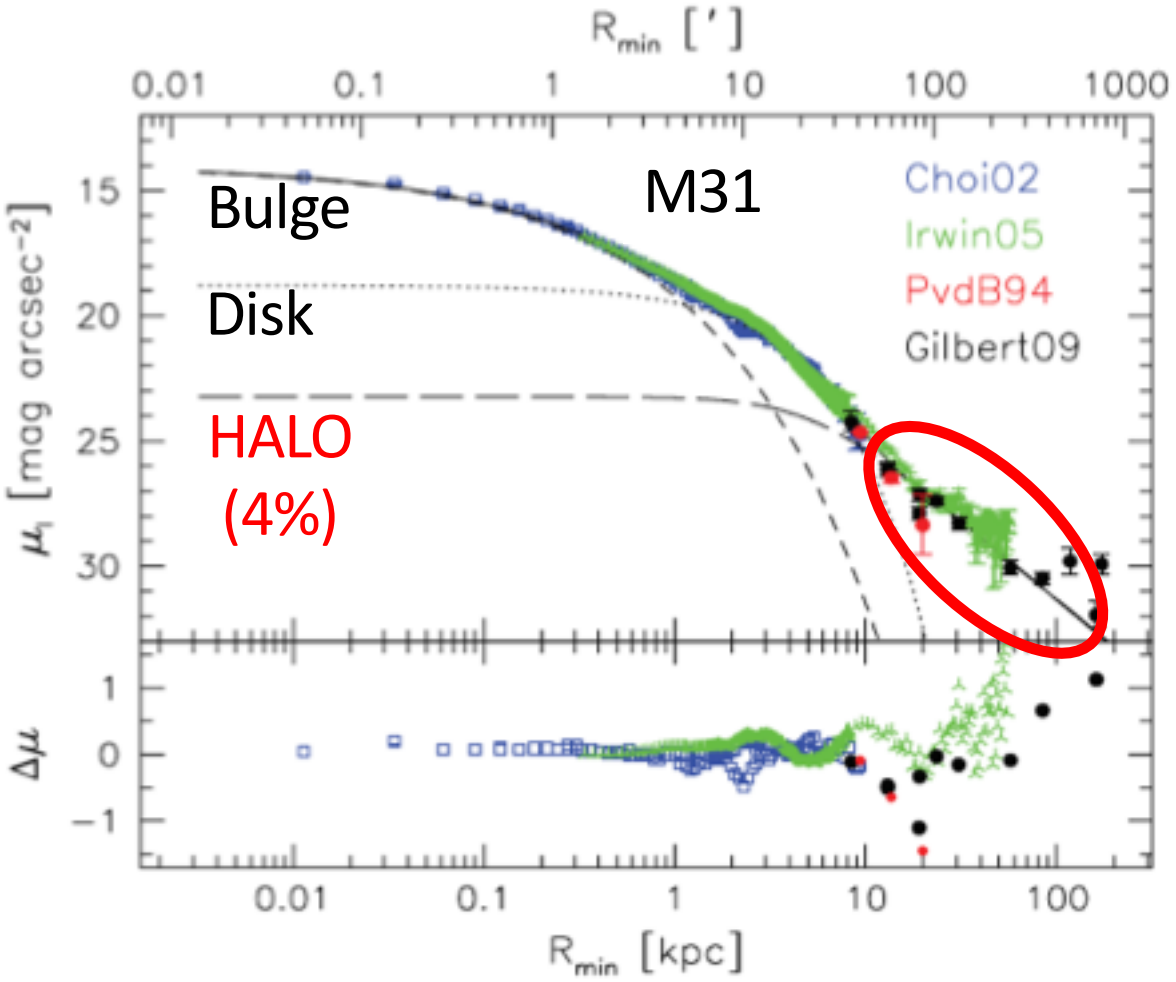
Kevin McKinnon[1,2]

Collaborators: Stéphane Courteau[2], Raja Guha Thakurta[1]

1: University of California, Santa Cruz

2: Queen's University

Motivation



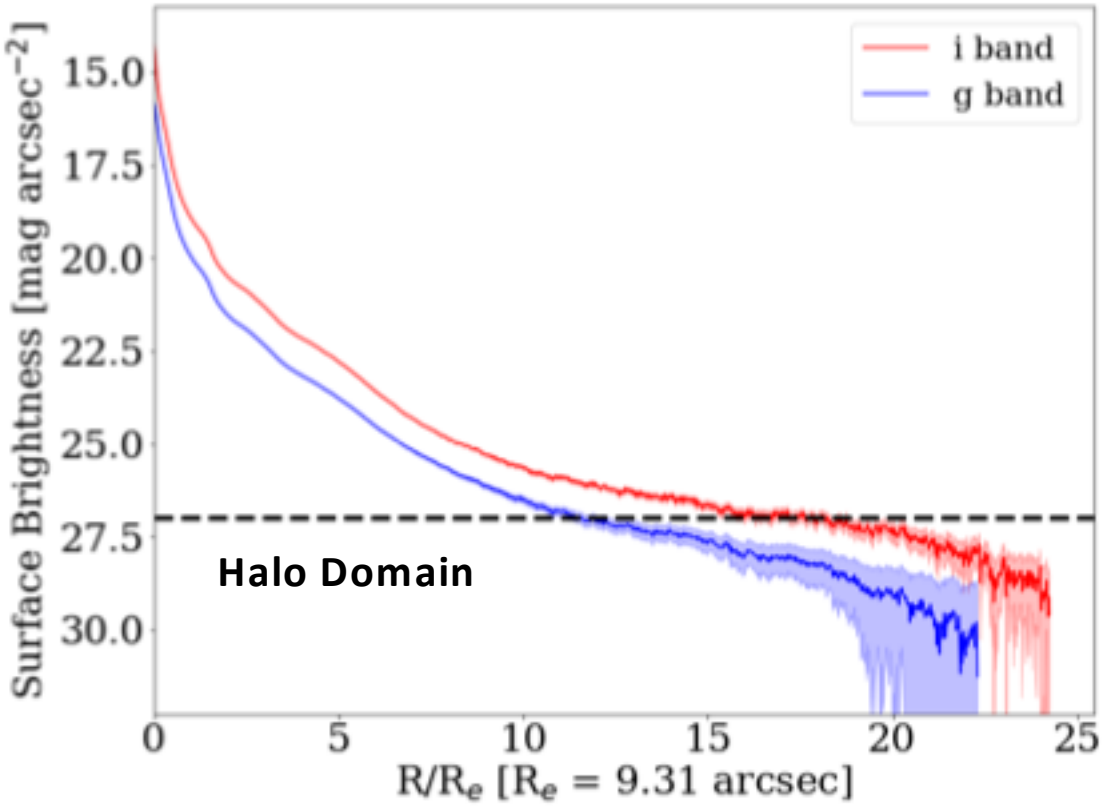
- Previously hard to observe (~27 mag arcsec^{-2})[1]
- Act as temporal window of the accretion history
- Helps set constraints on formation models

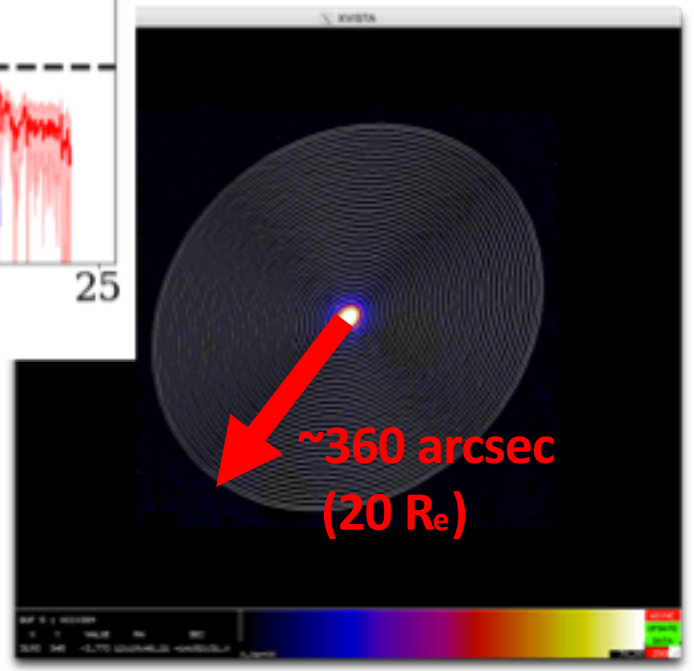
[1]Courteau et al. 2011 (Figure 8)

Next Generation Virgo Survey (NGVS)[1]

- CFHT/ Megacam
- 104 deg^2 FOV
- Limiting mag
  g = 28.8 mag arcsec^{-2}

- 415 VCC objects used
- Isophotal analysis of 2D image[2]
- Extraction of 1D (azimuthally averaged) surface brightness profile

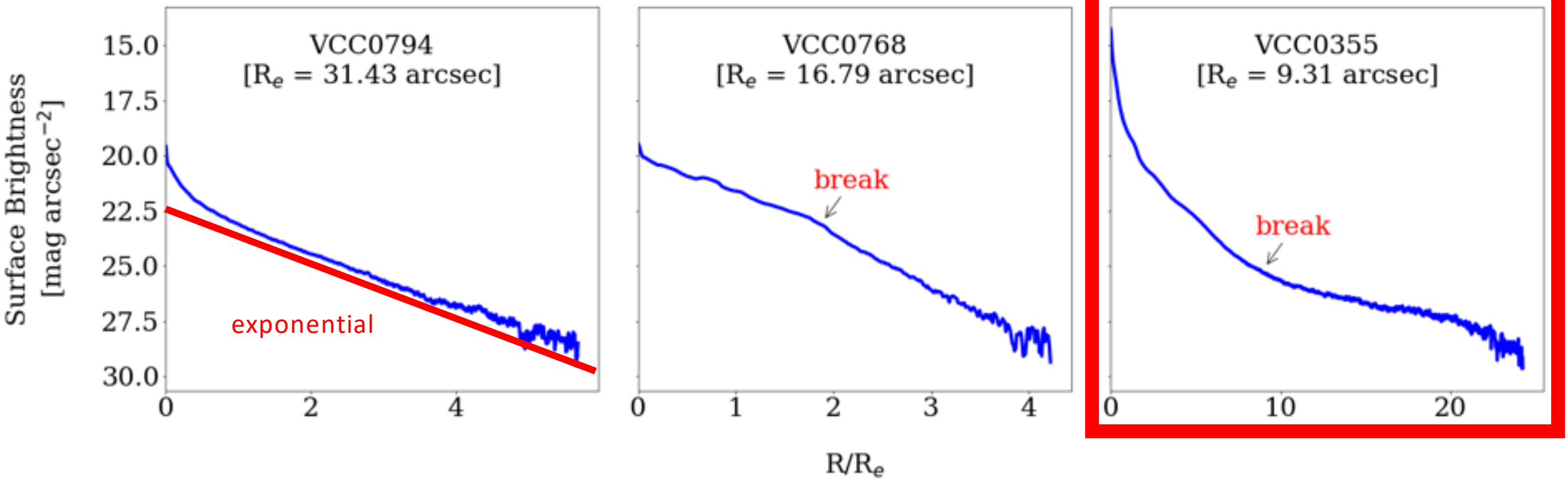




[1]Ferrarese et al. 2012, [2]Courteau 1995

Profile Classification for Virgo (NGVS) Galaxies

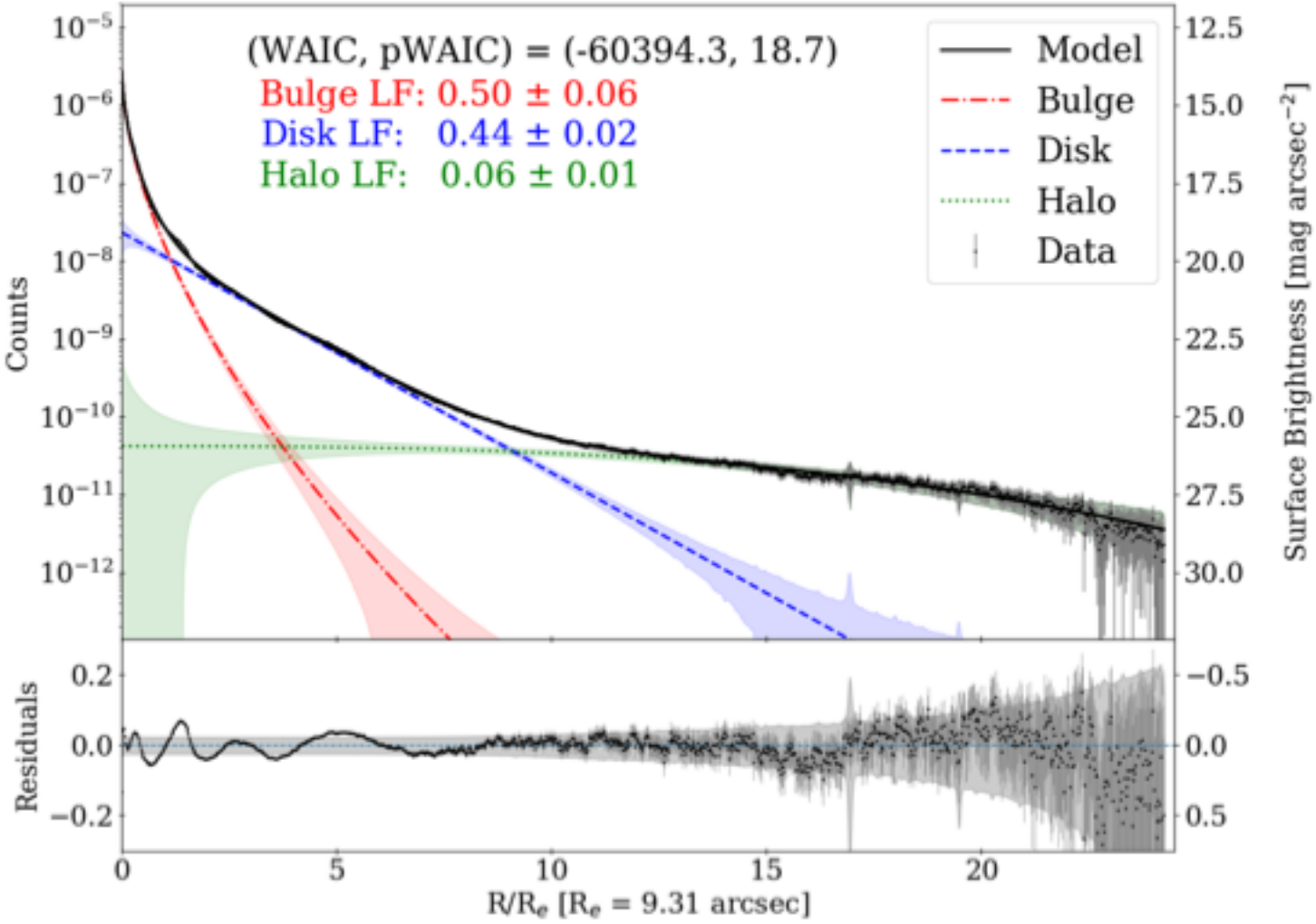
	Type I	Type II	Type III
This Work:	**45%**	**20%**	**35%**
Previous[1]:	**35%**	**34%**	**34%**



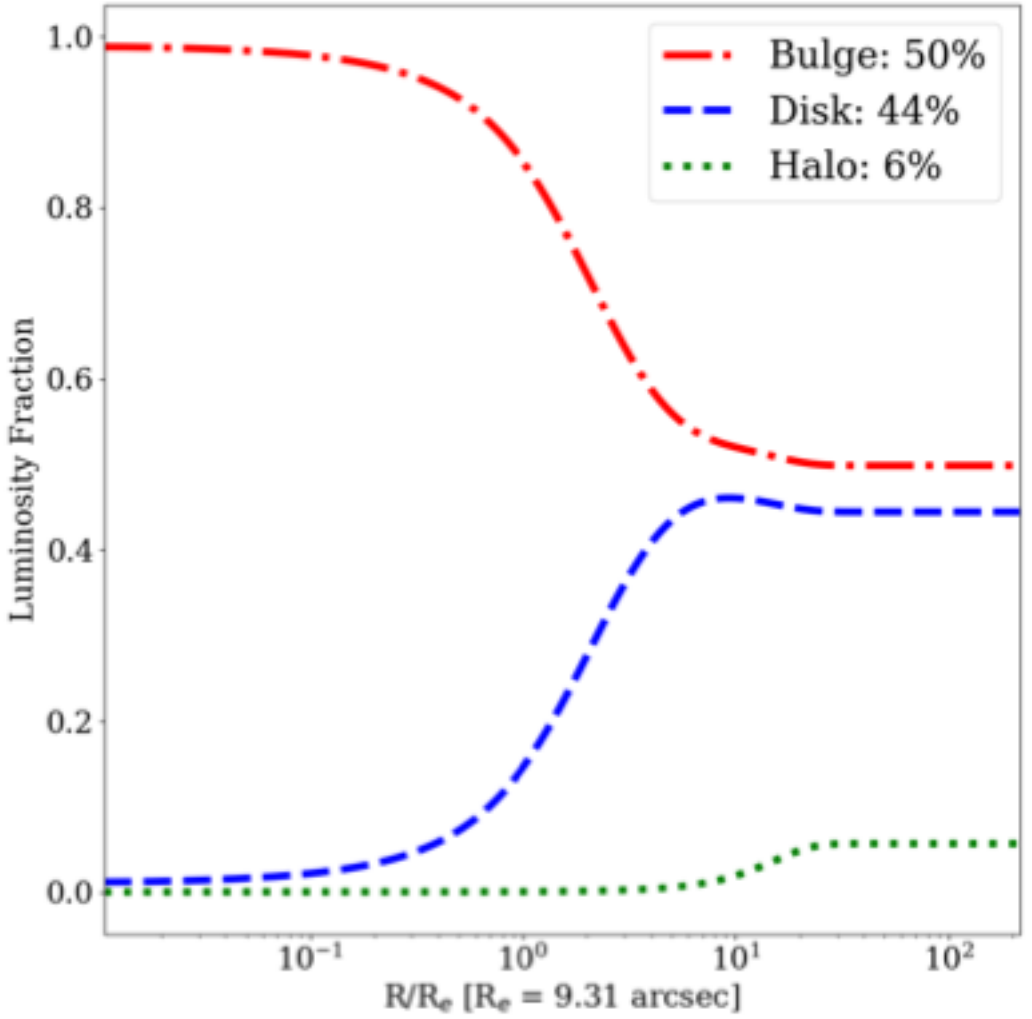
[1]SHIVir: Roediger et al. 2012 (Table 1)

Profile Decomposition (VCC0355)

Profile Components

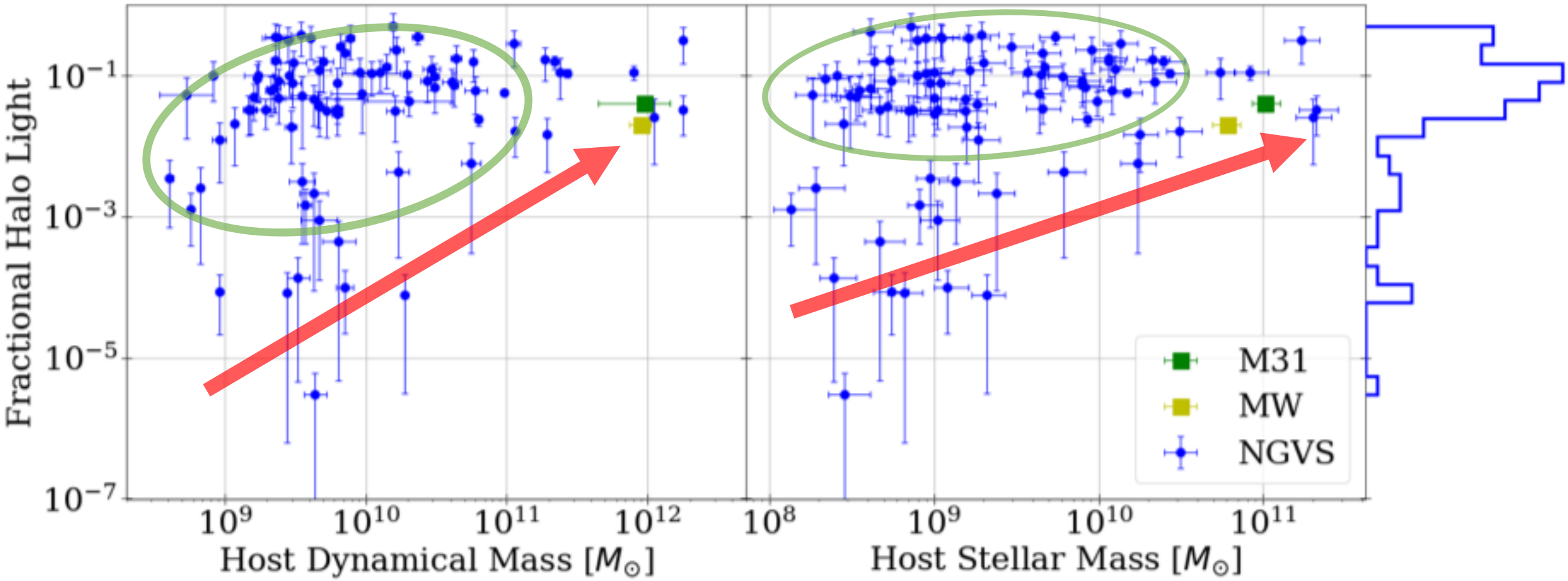


Cumulative Light Fractions



Halo Light Fractions (N=87)

- General (expected) trend of **increasing HLF** with host galaxy mass (Purcell et al. 2008)
- Might be seeing the mass regime where **low mass galaxies** begin to self-populate halo



M31: Courteau et al. 2011, MW: Carollo et al. 2010,
VCC Structural Parameters: Ouellette et al. 2017