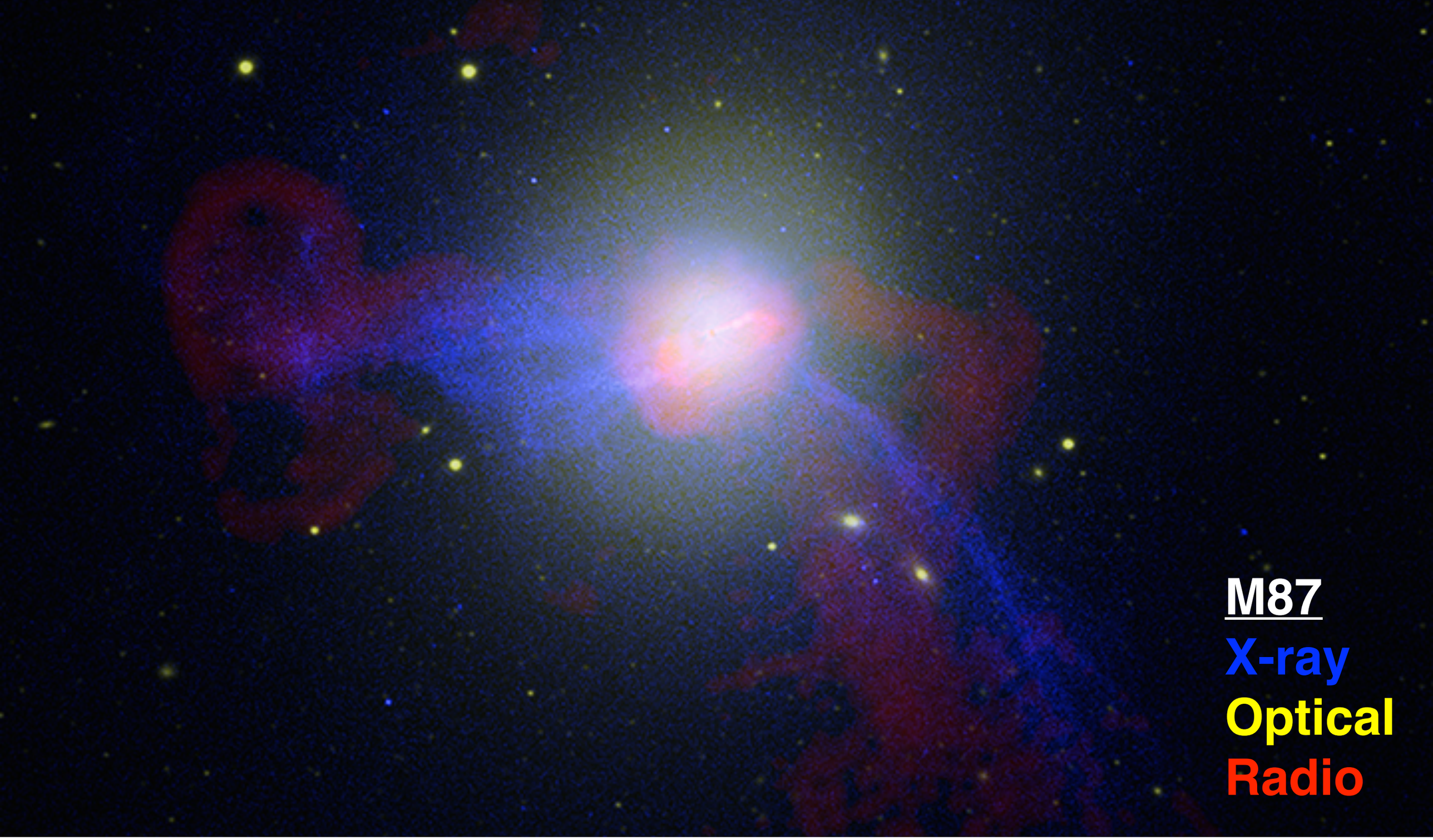
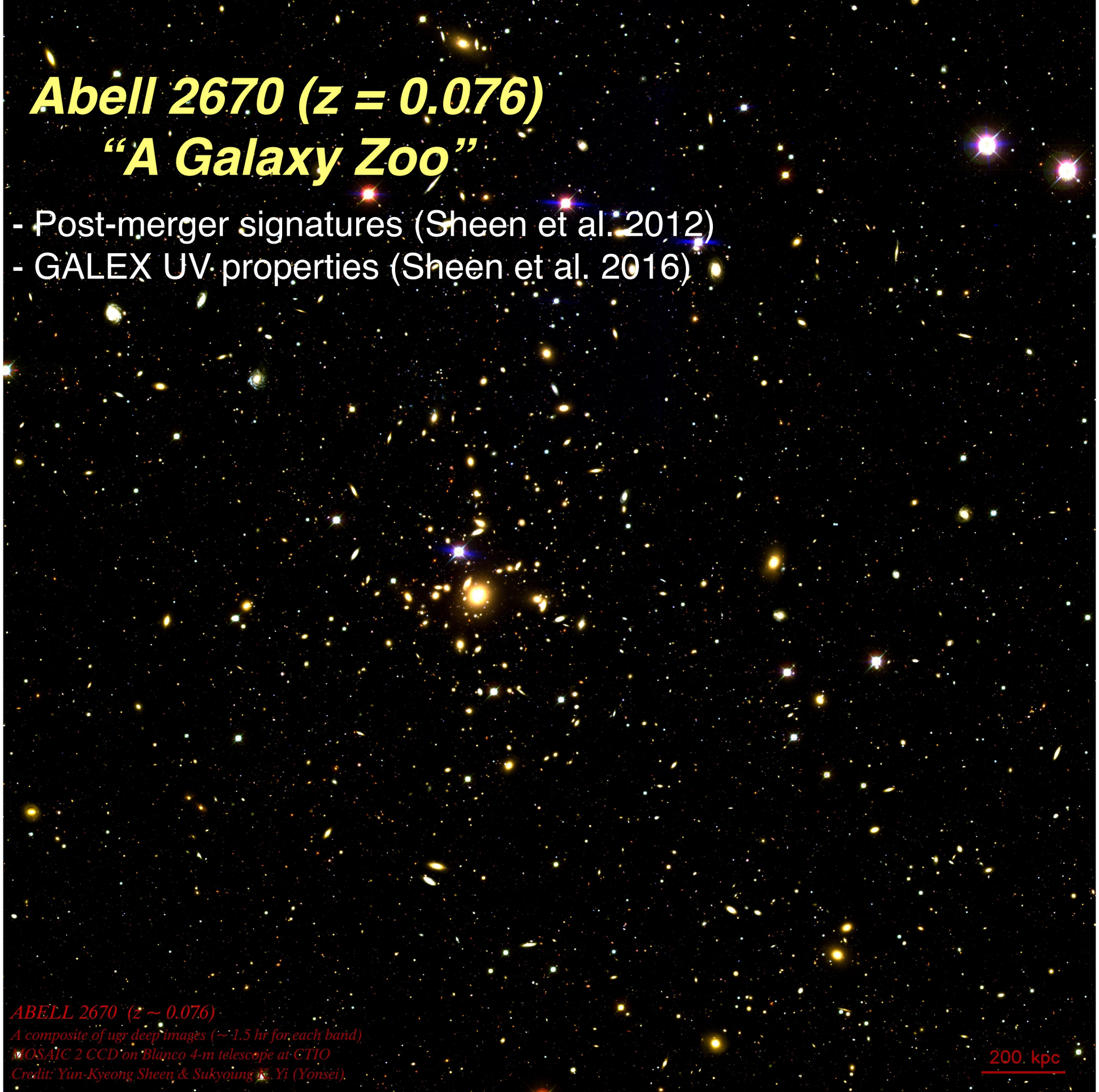
타원은하의 다파장 연구: 필요성과 예시

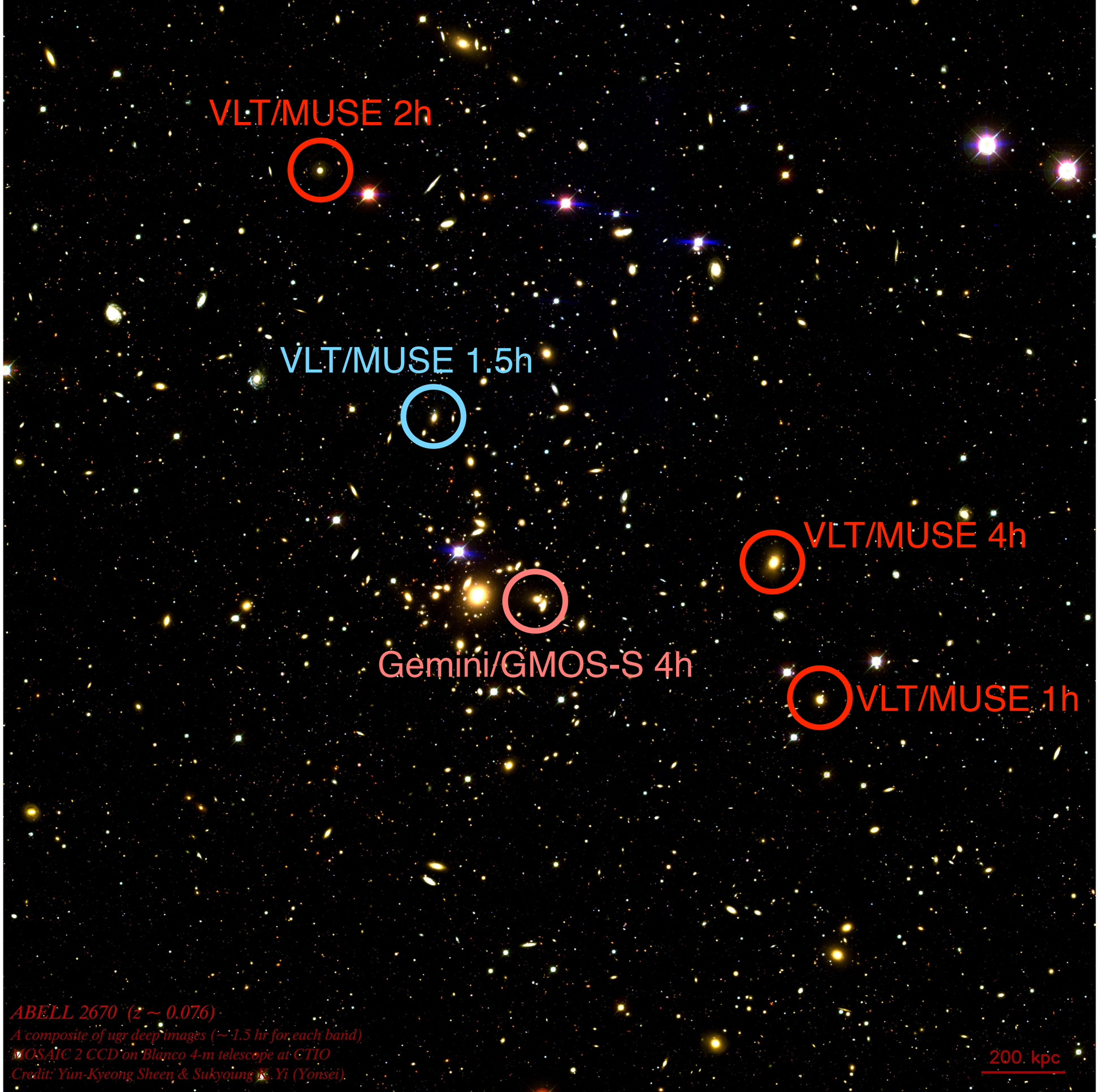
신윤경 (한국천문연구원)

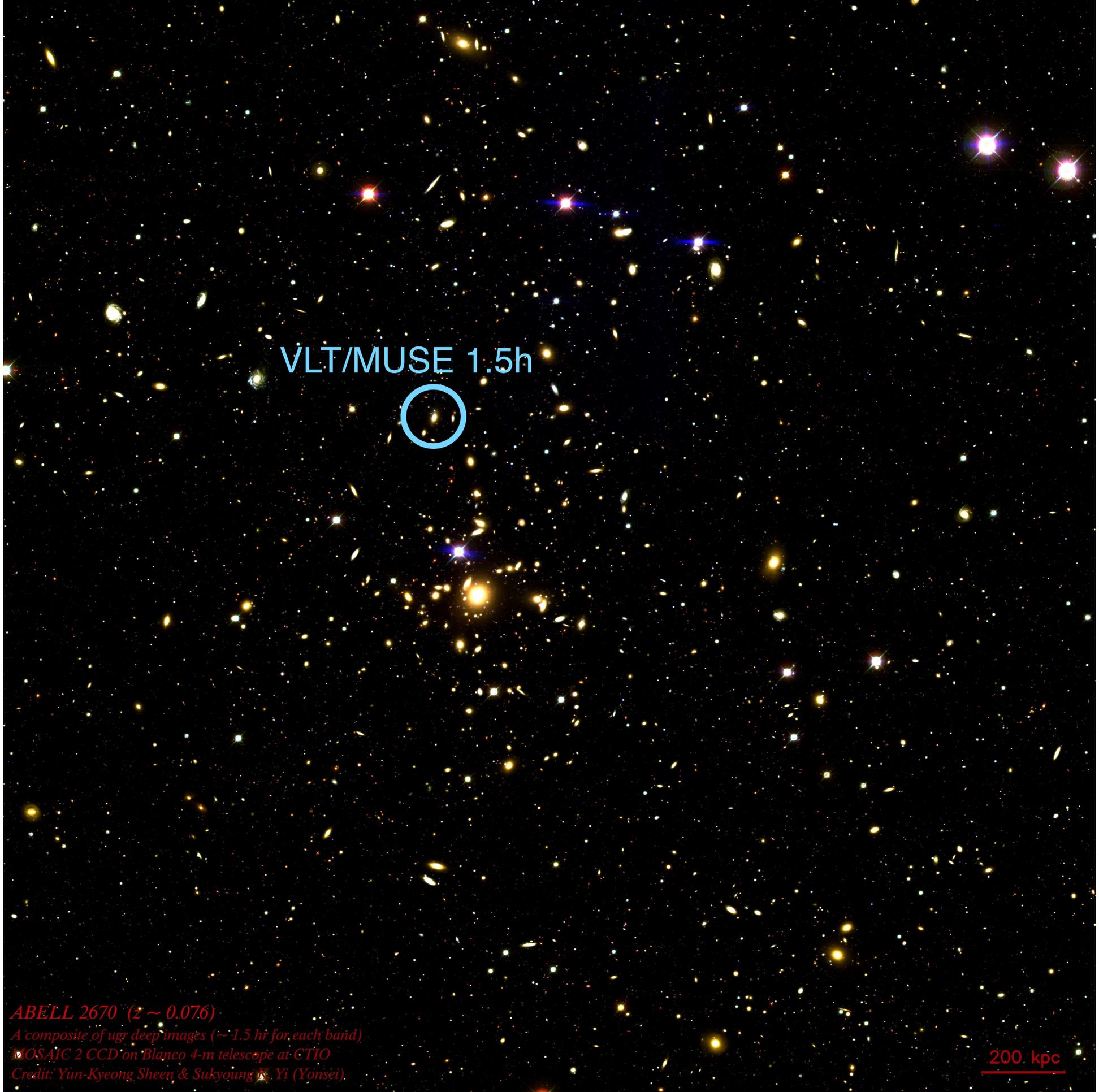


타원은하의 다파장 연구: 필요성과 예시

신윤경 (한국천문연구원)

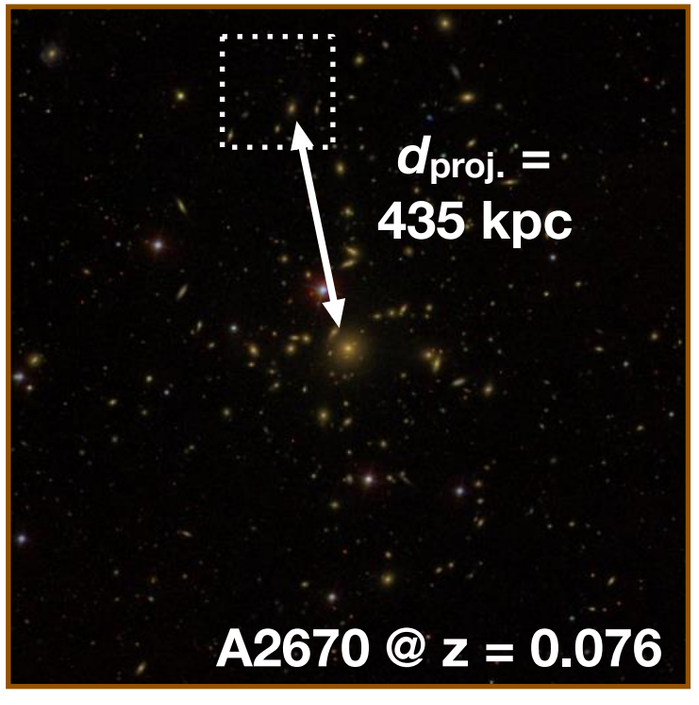

Abell 2670 (z = 0.076)
"A Galaxy Zoo"
- Post-merger signatures (Sheen et al. 2012)
- GALEX UV properties (Sheen et al. 2016)
ABELL 2670 (z ~ 0.076)
A composite of ugr deep images (~ 1.5 hr for each band)
MOSAIC 2 CCD on Blanco 4-m telescope at CTIO
Credit: Yun-Kyeong Sheen & Sukyoung K. Yi (Yonsei)
200 kpc

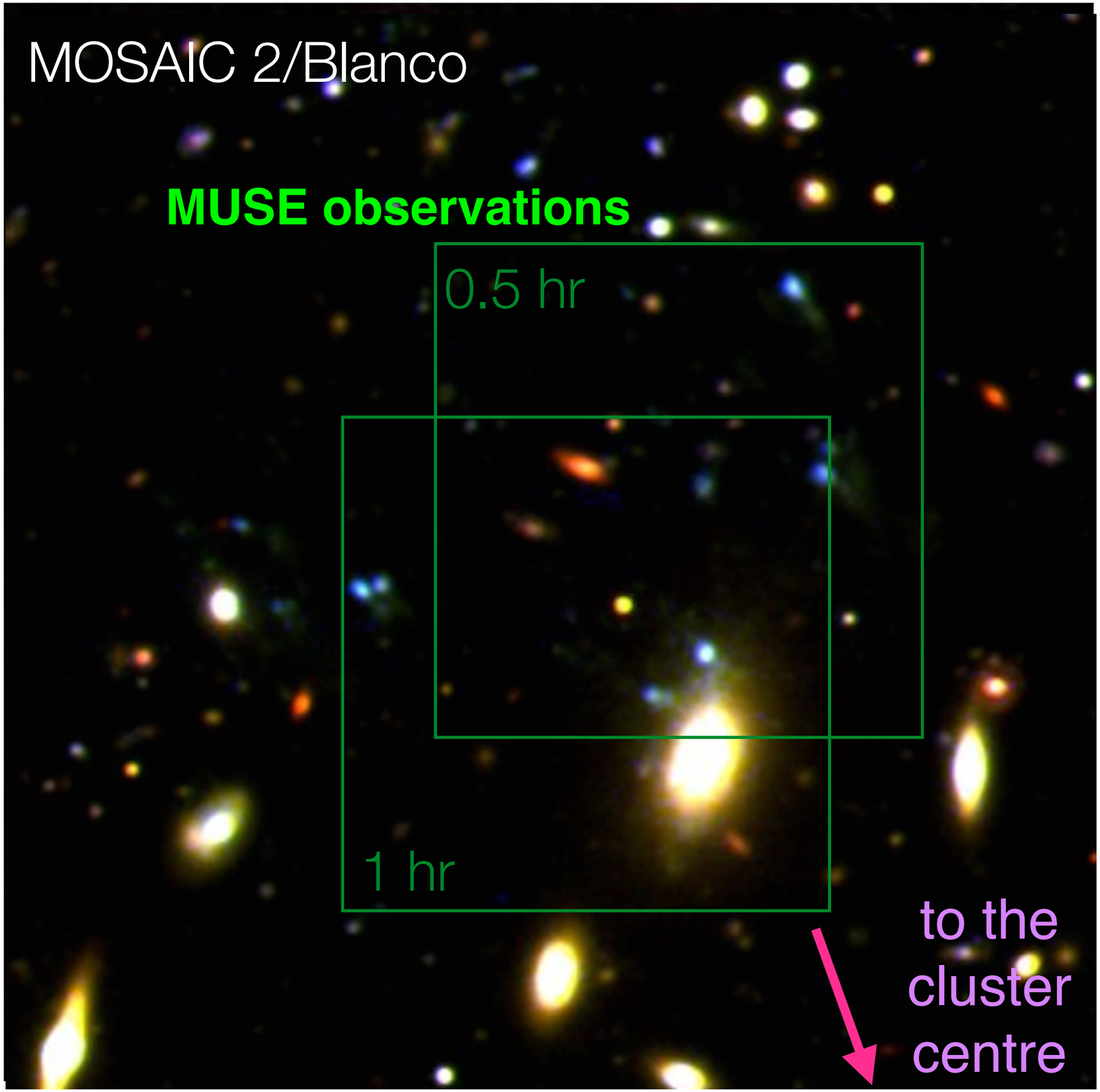

VLT/MUSE 2h
VLT/MUSE 1.5h
VLT/MUSE 4h
Gemini/GMOS-S 4h
VLT/MUSE 1h
ABELL 2670 (z ~ 0.076)
A composite of ugr deep images (~ 1.5 hr for each band)
MOSAIC 2 CCD on Blanco 4-m telescope at CTIO
Credit: Yun-Kyeong Sheen & Sukyoung K. Yi (Yonsei)
200 kpc


VLT/MUSE 1.5h
ABELL 2670 (z ~ 0.076)
A composite of ugr deep images (~ 1.5 hr for each band)
MOSAIC 2 CCD on Blanco 4-m telescope at CTIO
Credit: Yun-Kyeong Sheen & Sukyoung K. Yi (Yonsei)
200 kpc

An elliptical galaxy in Abell 2670

- redshift = 0.08
- r = 16.32
- g - r = 0.99
- M_r = -21.5
- log(M_*) ~ 11.2
- fracDeV ~ 0.9



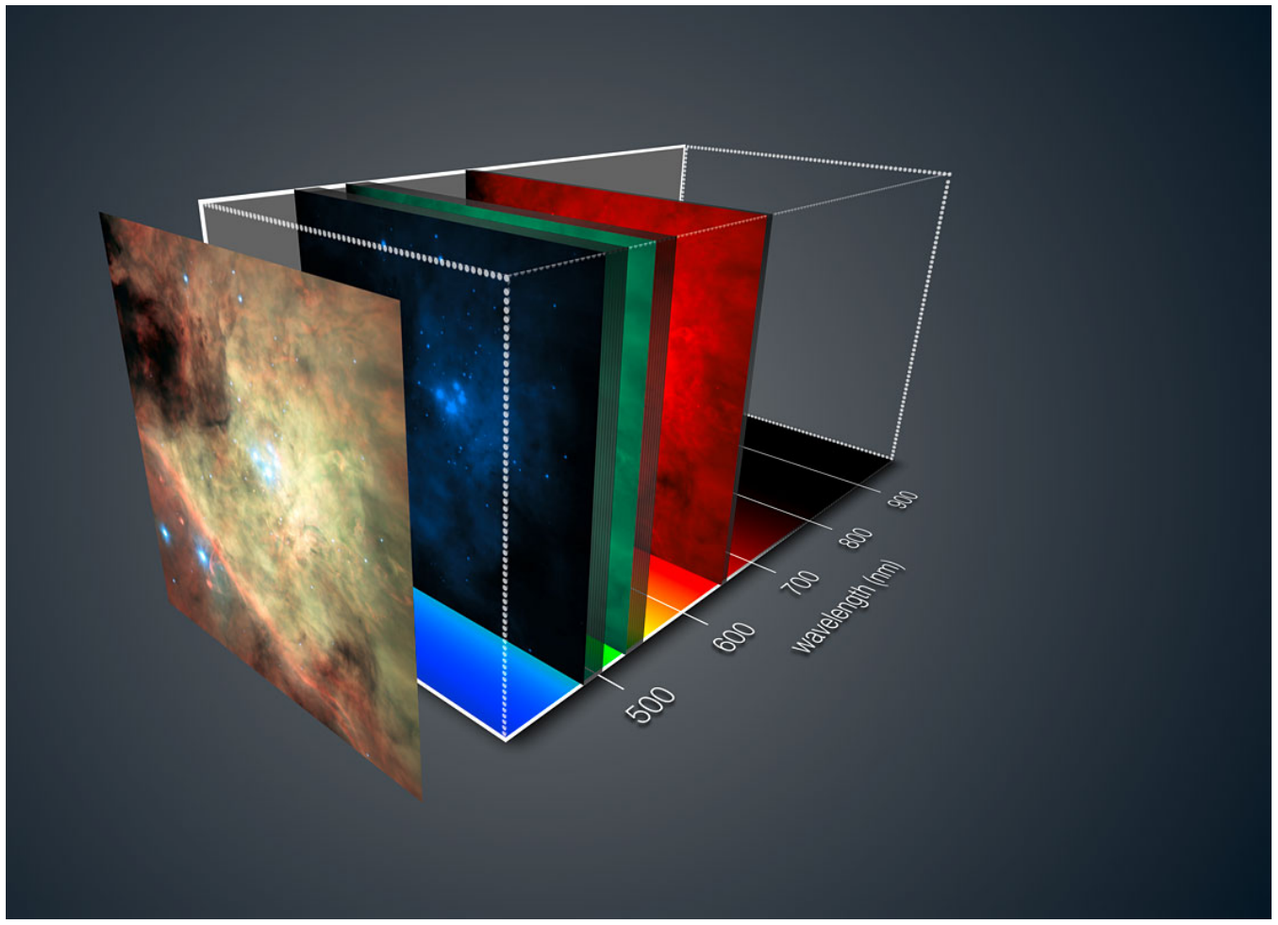


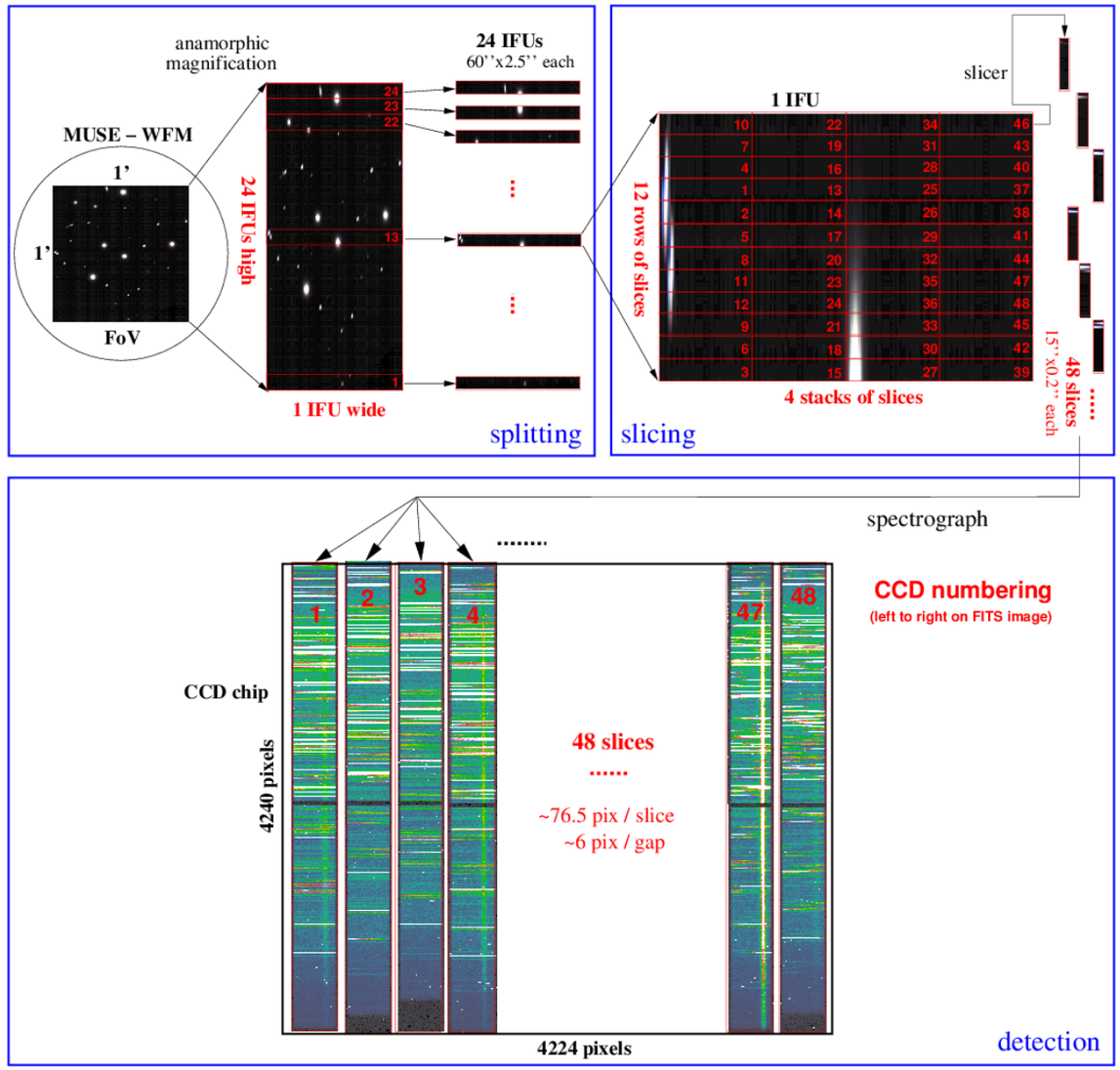
The deep optical image reveals

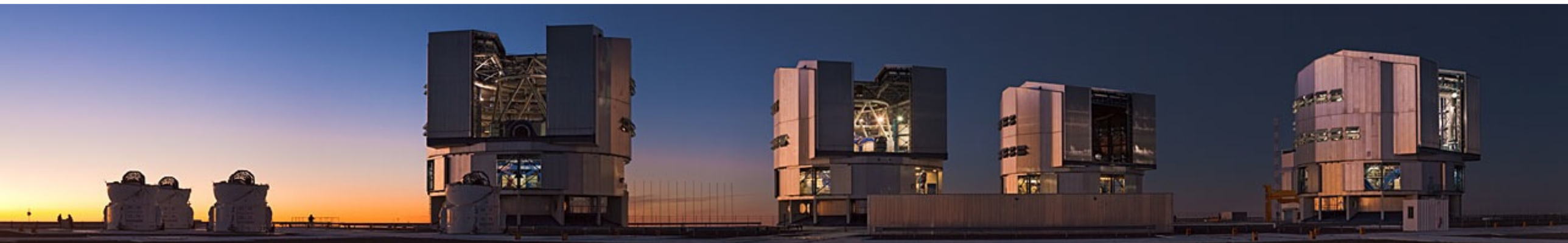
- Disturbed features in the galaxy halo
- Blue blobs (tadpoles) around the galaxy
- Tails of the tadpoles pointing to the cluster centre

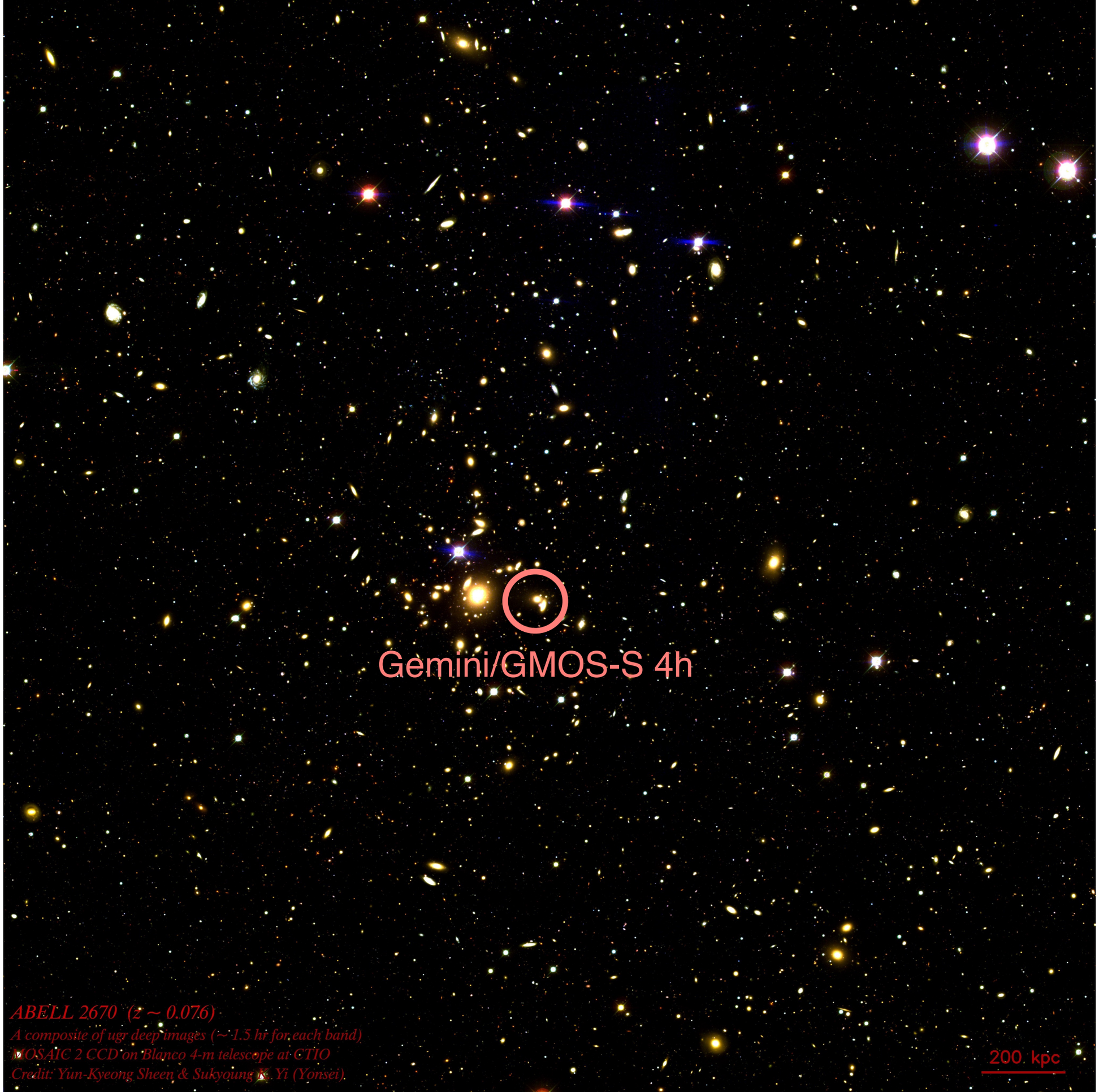
Try MUSE observations to confirm associations of the tadpoles to the elliptical galaxy

MUSE Wide FoV IFU Spectroscopy

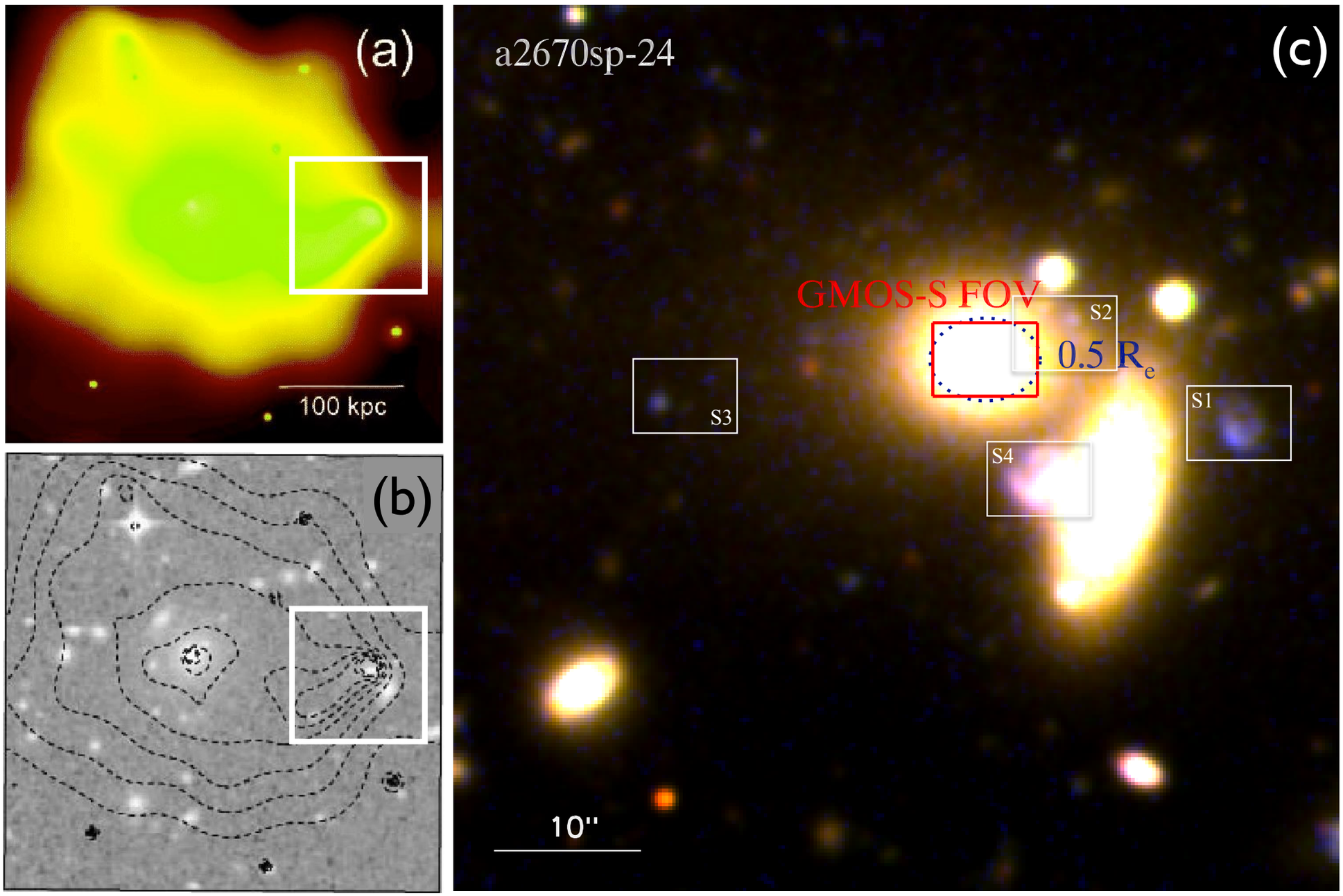


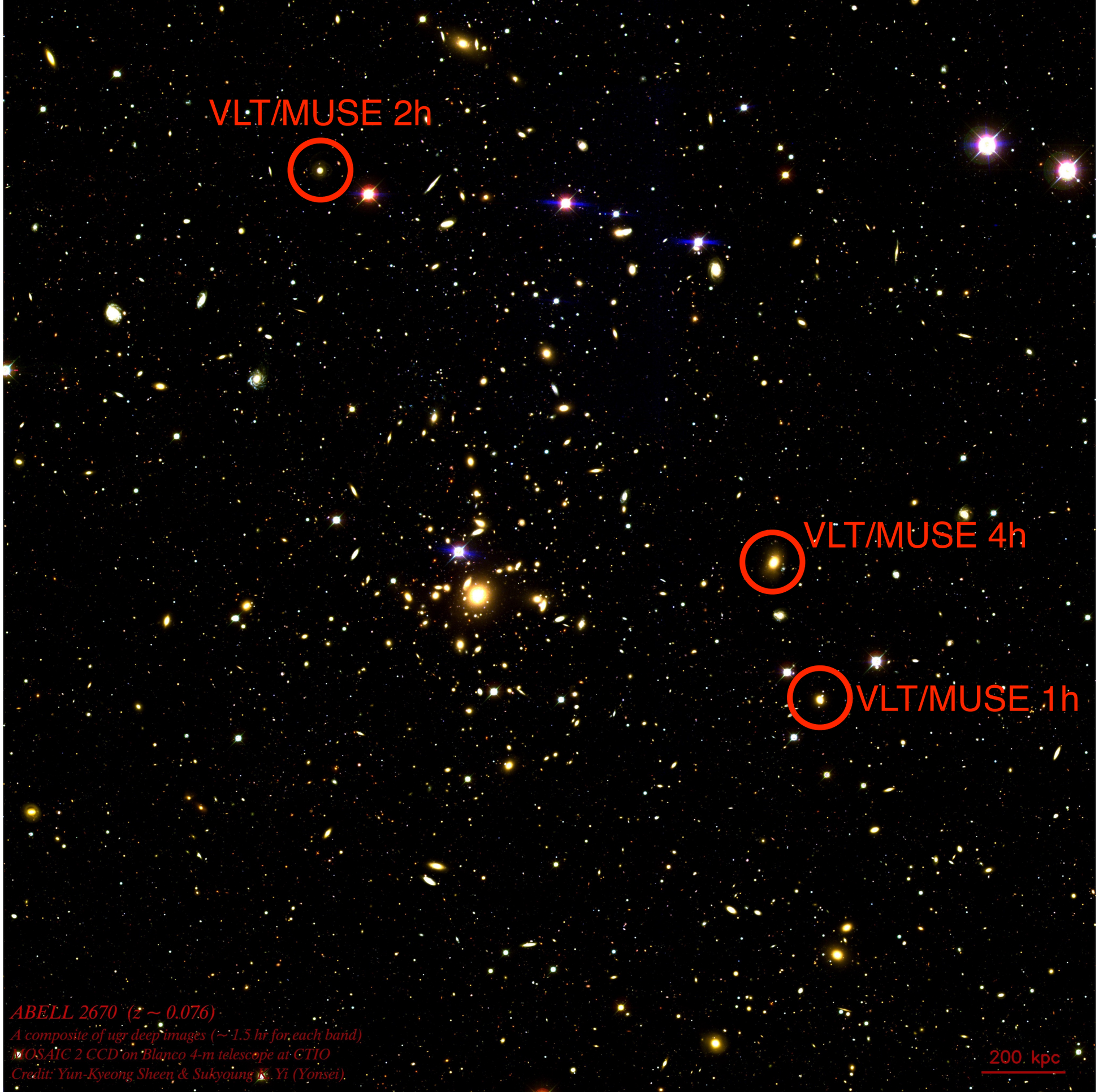




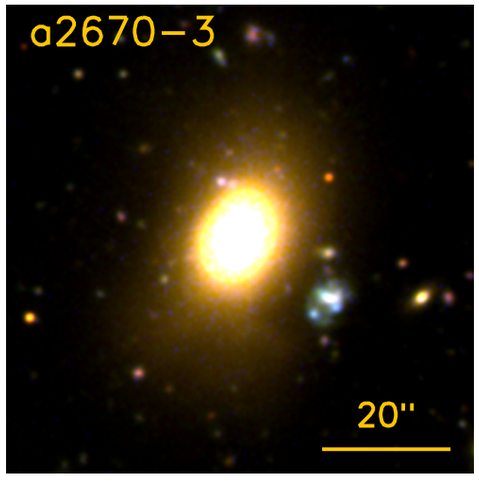

Gemini/GMOS-S 4h
ABELL 2670 (z ~ 0.076)
A composite of ugr deep images (~1.5 hr for each band)
MOSAIC 2 CCD on Blanco 4-m telescope at CTIO
Credit: Yun-Kyeong Sheen & Sukyoung K. Yi (Yonsei)
200. kpc

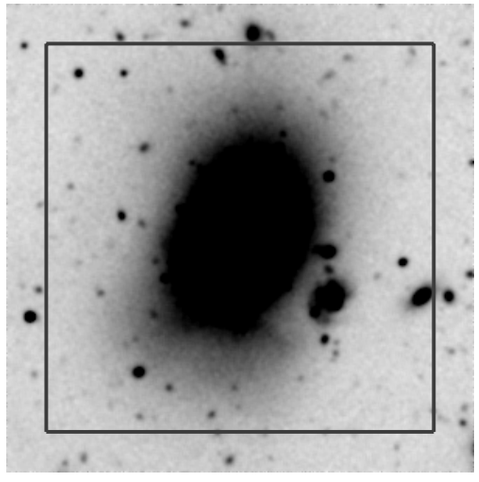
A central galaxy of a X-ray halo

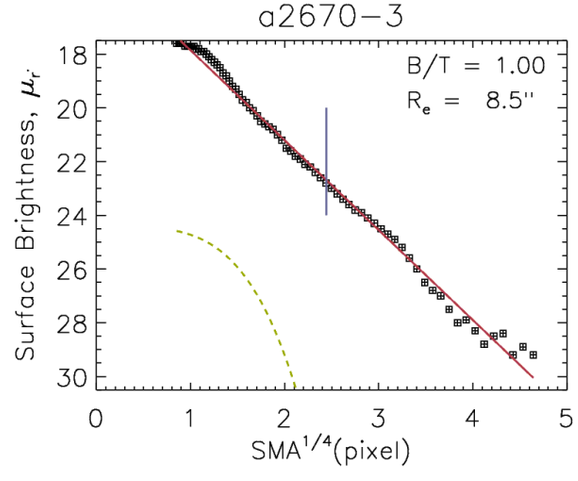


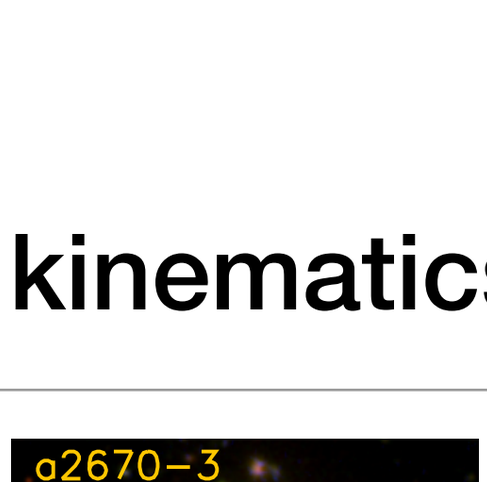

VLT/MUSE 2h
VLT/MUSE 4h
VLT/MUSE 1h
ABELL 2670 (z ~ 0.076)
A composite of ugr deep images (~ 1.5 hr for each band)
MOSAIC 2 CCD on Blanco 4-m telescope at CTIO
Credit: Yun-Kyeong Sheen & Sukyoung K. Yi (Yonsei)
200 kpc

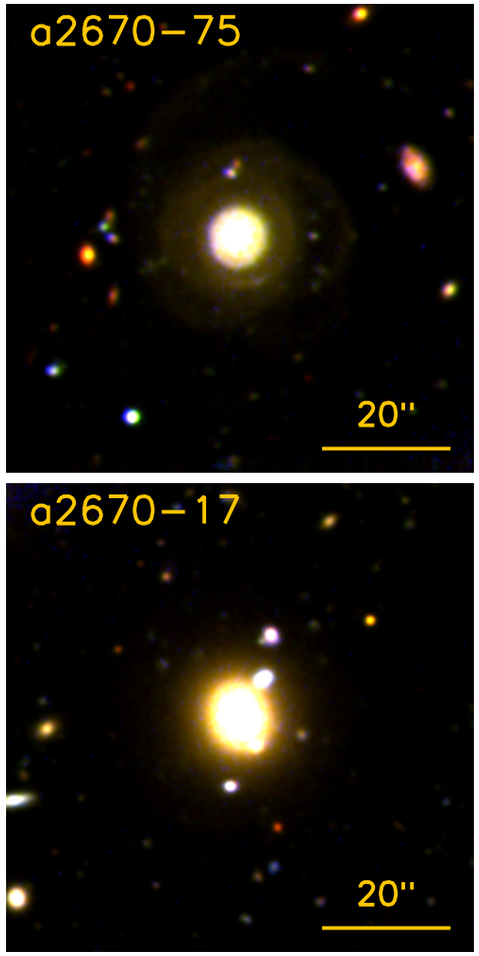
Stellar kinematics of post-merger galaxies

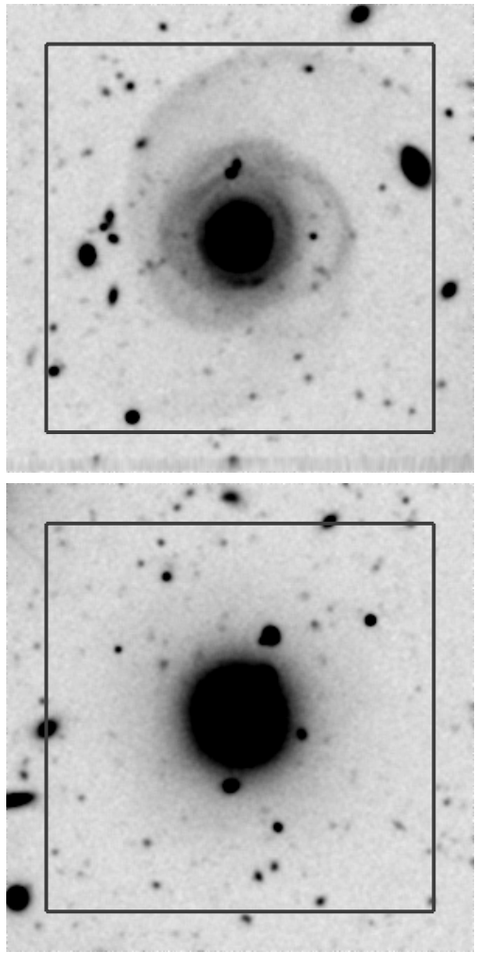


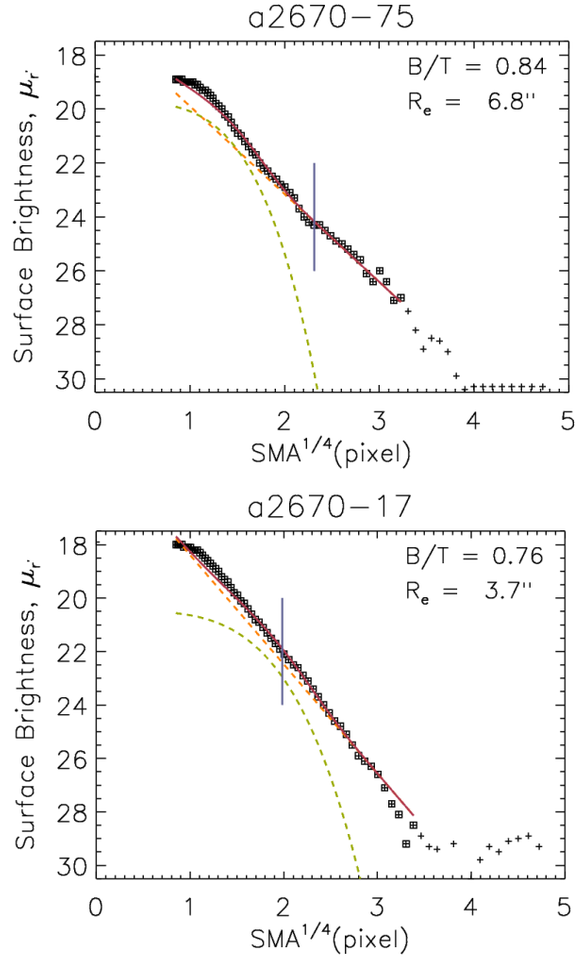










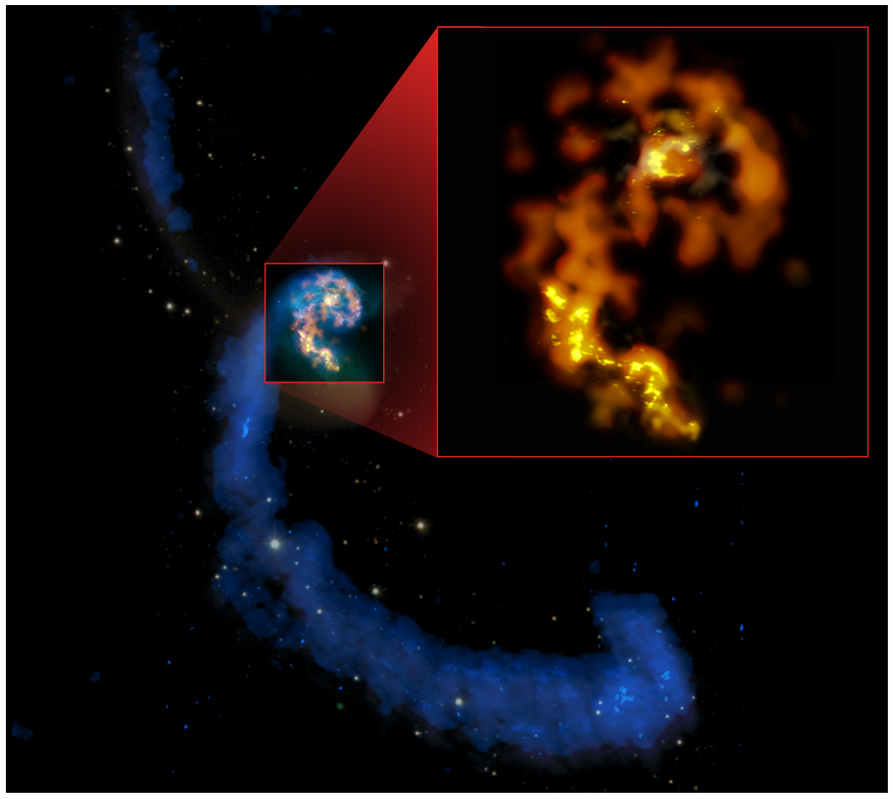


거대타원은하의 형성과 AGN 피드백

- 은하단 내 거대타원은하에 존재하는 중성 가스의 함량을 측정하여 모은하의 특성을 추정하고 은하 병합 중 별 생성을 억제하는 기작에 대하여 논의

- Impossible with a single dish antenna > go for *ALMA*

- High-quality complementary data: deep UV - optical images, optical spectra, IFU spectra



ALMA observation (inset) of Antennae galaxy

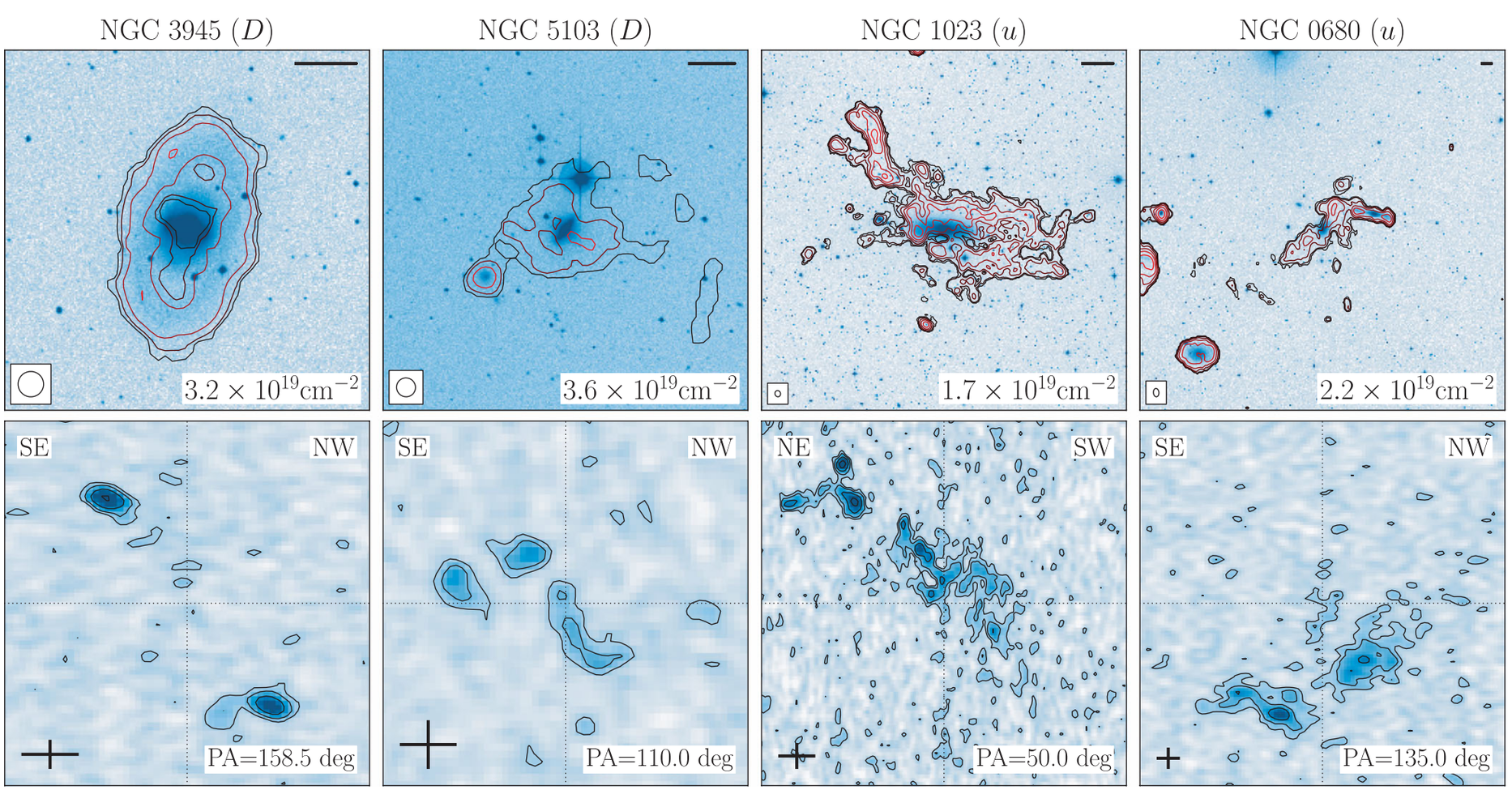
Monthly Notices
of the
ROYAL ASTRONOMICAL SOCIETY

Mon. Not. R. Astron. Soc. **422,** 1835–1862 (2012) doi:10.1111/j.1365-2966.2012.20219.x

The ATLAS^{3D} project – XIII. Mass and morphology of H I in early-type galaxies as a function of environment

Paolo Serra,[1⋆] Tom Oosterloo,[1,2] Raffaella Morganti,[1,2] Katherine Alatalo,[3] Leo Blitz,[3]

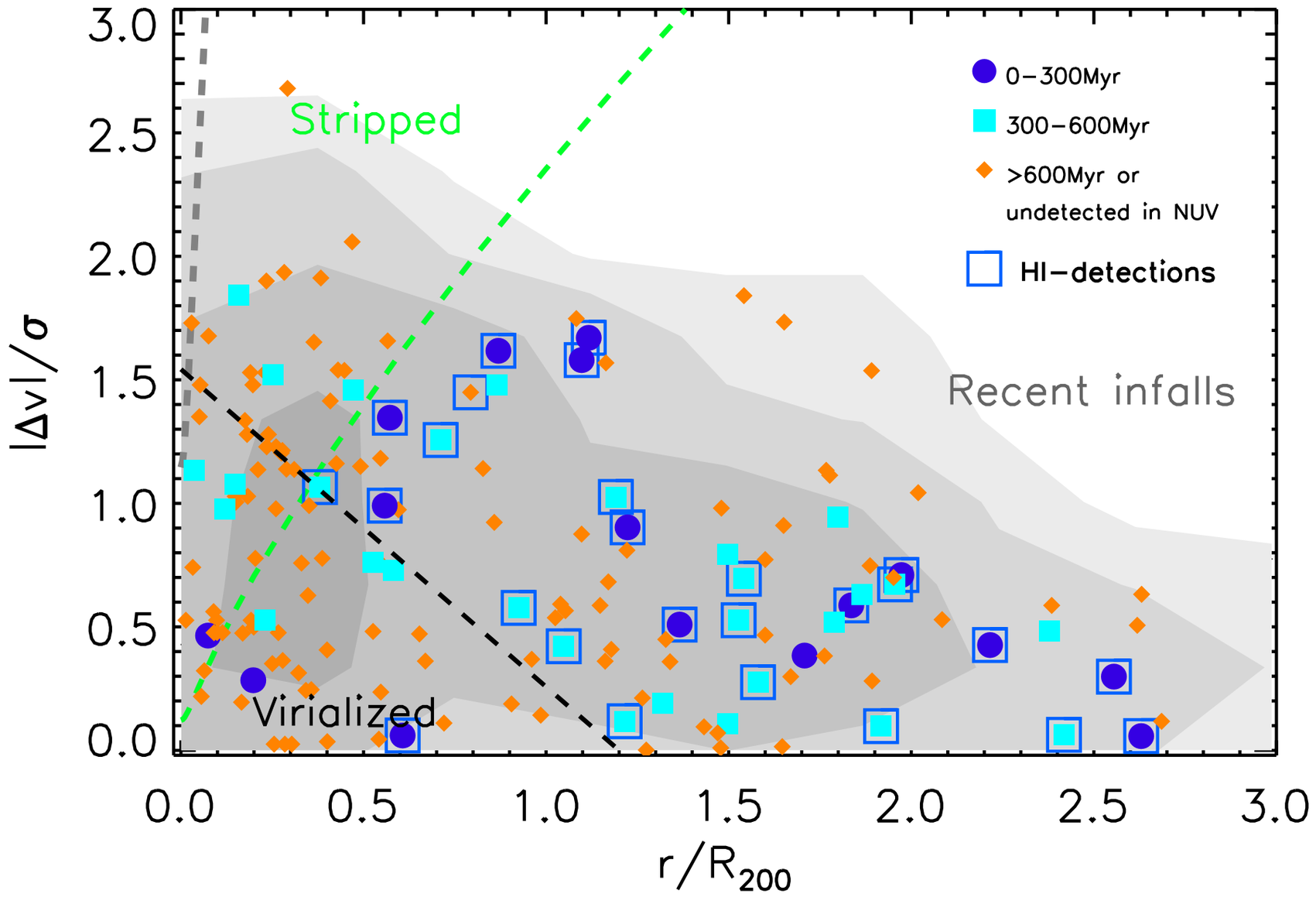
We detect ∼40 per cent of all ETGs outside the Virgo galaxy cluster and ∼10 per cent of all ETGs inside it. This demonstrates that it is common for non-cluster ETGs to host H I. The



Monthly Notices
of the
ROYAL ASTRONOMICAL SOCIETY
MNRAS **448,** 1715–1728 (2015) doi:10.1093/mnras/stv100

BUDHIES II: a phase-space view of H I gas stripping and star formation quenching in cluster galaxies

Yara L. Jaffé,[1⋆] Rory Smith,[1] Graeme N. Candlish,[1] Bianca M. Poggianti,[2]
Yun-Kyeong Sheen[1] and Marc A. W. Verheijen[3]



MUSE Large Programs

- Dissecting Gas Stripping Phenomena in Galaxies with MUSE (GASP) (PI B. Poggianti)

- A MUSE survey of the dense halo gas in z ~ 3 galaxies near optically-thick absorbers (PI M. Fumagalli)

Discussion

- HI/CO observations of early-type galaxies in galaxy clusters
- Research topics for IFU surveys (MaNGA, SAMI, CALIFA etc.)