

How much should we advance our research ??

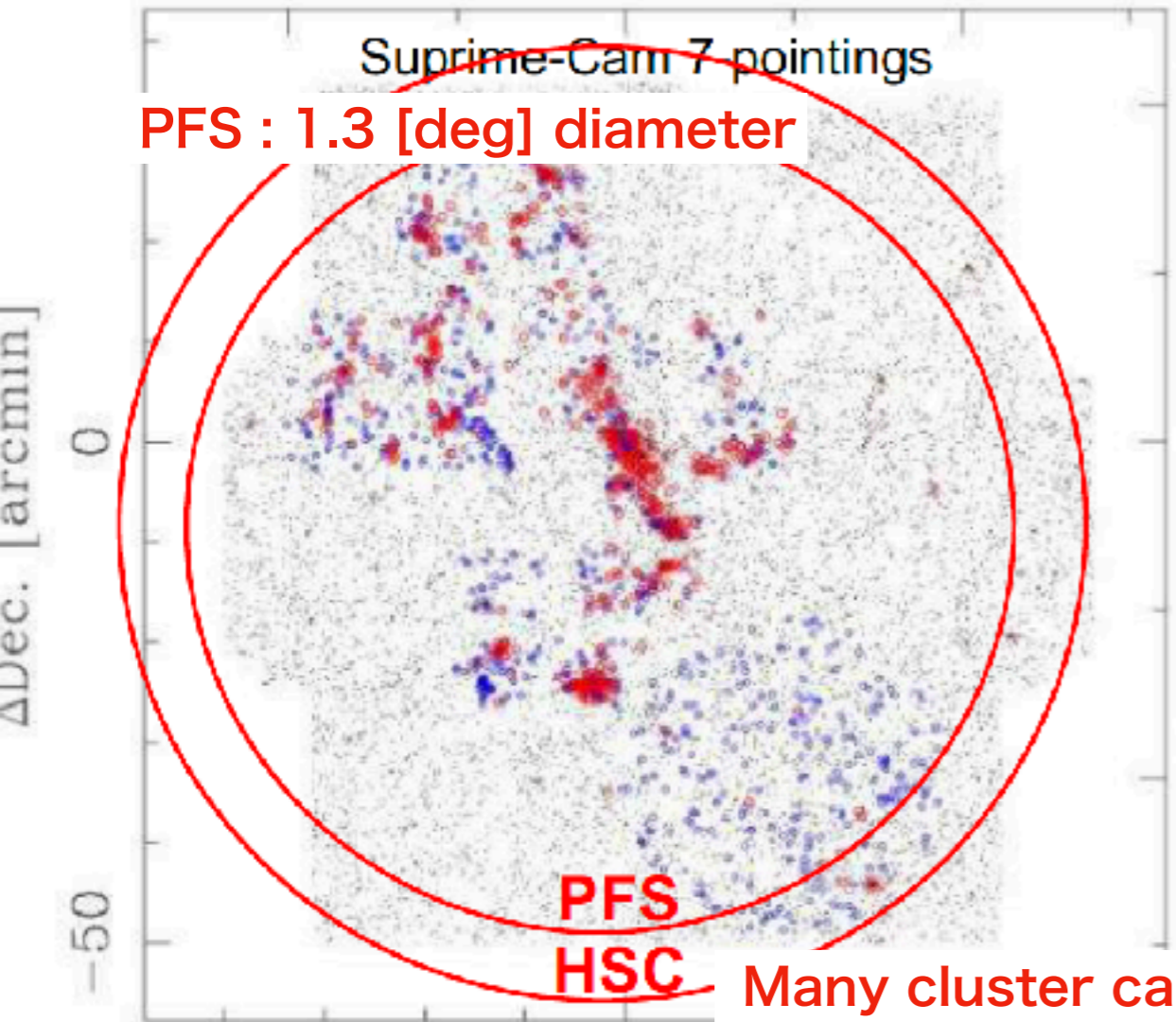
PSF @ 2020

Large field view of spectroscopy
~ 2400 targets



CL0016 cluster ($z=0.55$)
(Tanaka, M. et al. 2009)

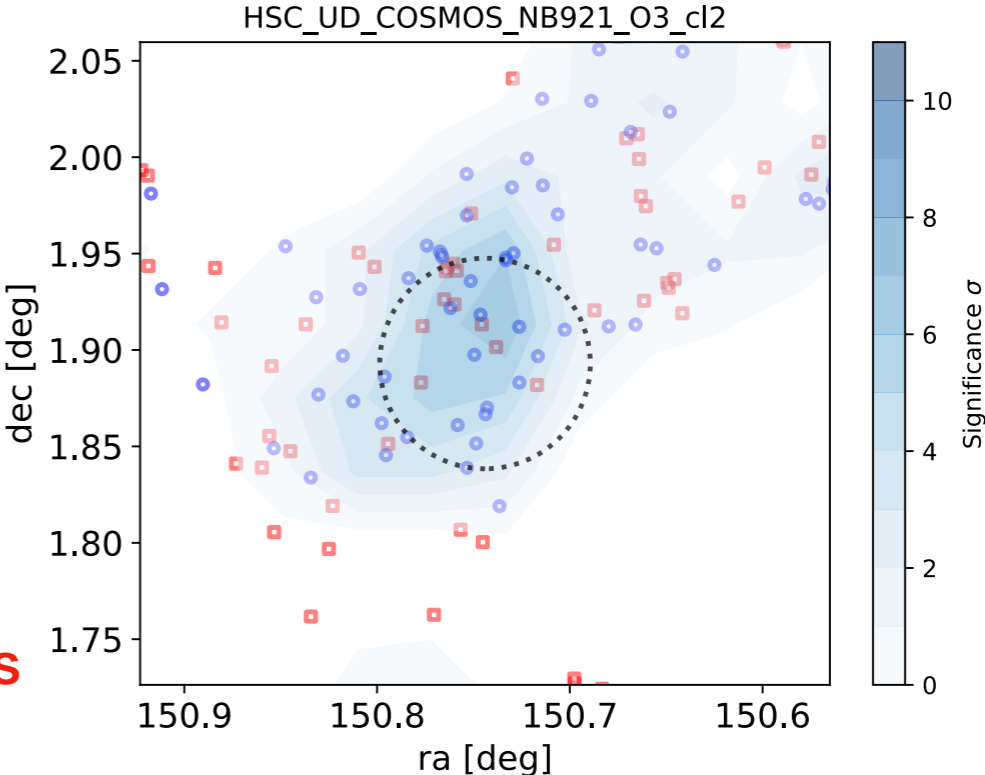
- ✓ Various evolutionary stages of galaxy cluster candidates catalog.
- ✓ The property of our cluster candidate with multi-wavelength data



PFS : 1.3 [deg] diameter

PFS
HSC

Many cluster candidates
Large scale structure



The current status of my research

Subaru telescope

Imaging : **The evidence of younger cluster candidates**

DR2 was released → Update our catalog

Near Infrared data → More distant cluster

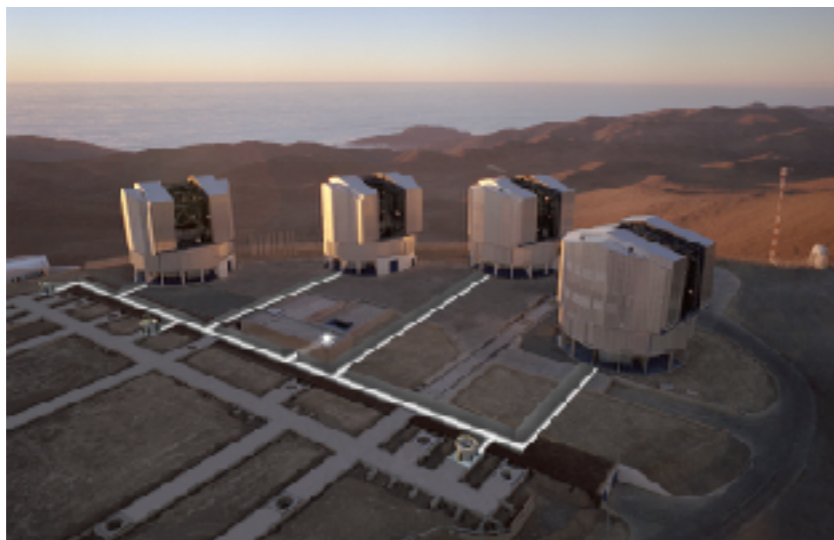
Spectroscopy : SFR, Metallicity, identification..

VLT

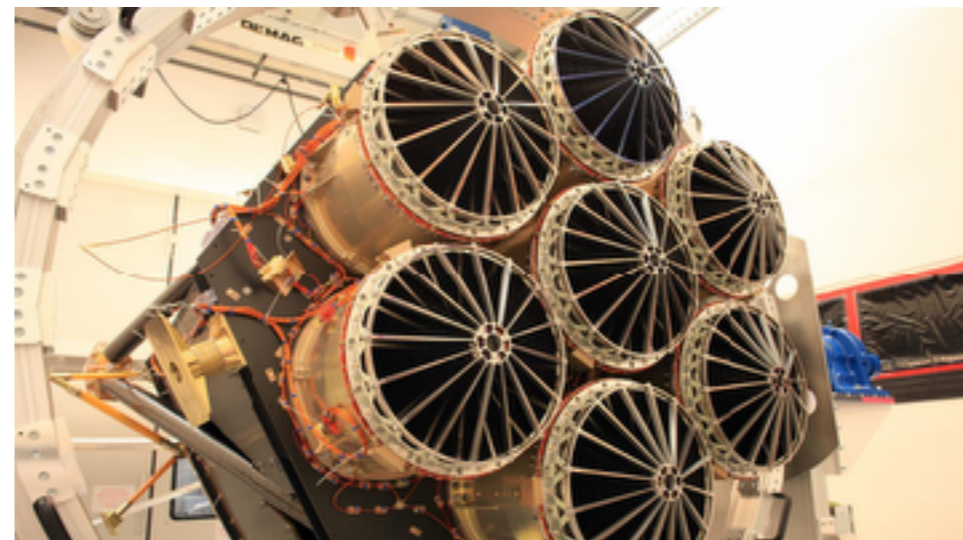
Follow-up observation @ $z \sim 1.47$

eROSITA

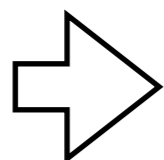
All sky survey **X-ray** instrument



VLT



eROSITA



PFS !! Spectroscopic survey

The oversea program in past and future

① Tracing cosmic evolution with clusters of galaxies

- ✓ Sexten in Italy July 8-21, 2019
- ✓ One of the biggest conferences about galaxy cluster
- ✓ **The presentation topic is different from Japan**



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② Subaru Telescope 20th Anniversary

- Optical & Infrared Astronomy for the Next Decade-

- ✓ Cona in Hawaii November 17-22, 2019
- ✓ **All Subaru users in the world**
- ✓ Business section, science section and discussion for future.

