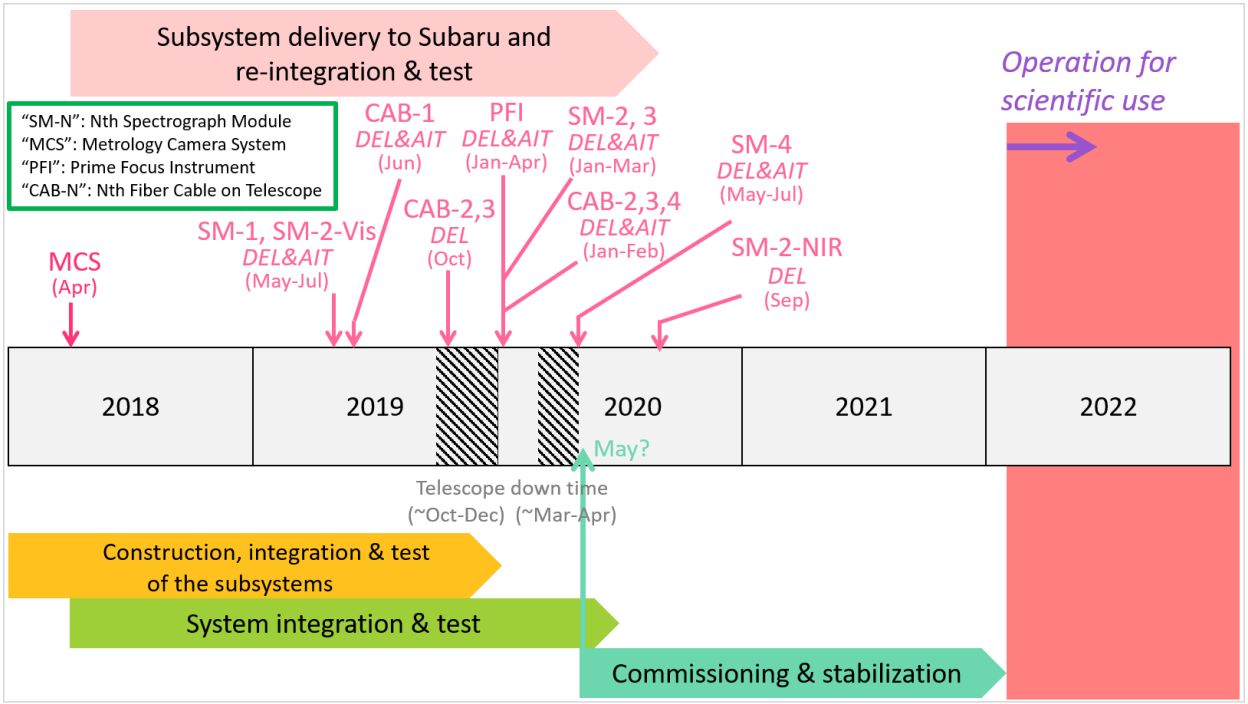
Status of Subaru / SSP

- SSP has finished ~225 nights of 300 nights
  - 30 additional nights may be approved to complete Wide survey
- Time for transient survey at SXDS (~58 hours) are secured
- Transient survey should be finished in the next semester (S19B).
- Commissioning work of PFS may start from 2020 →
  HSC will not be available when PFS is mounted even if bright time.
- PFS schedule

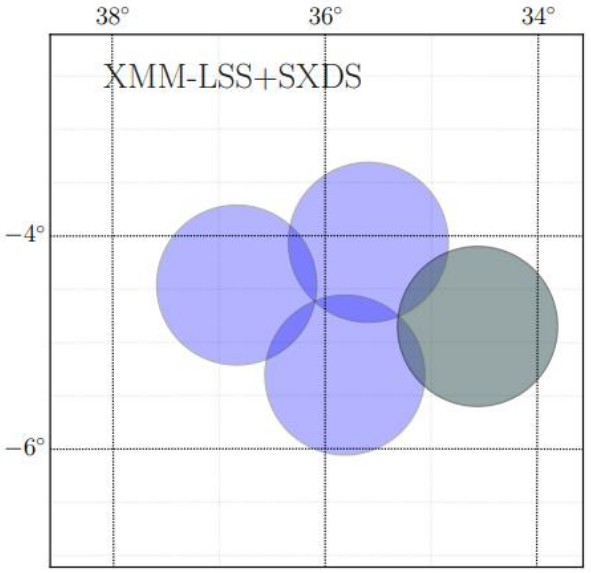


- Subaru is planning telescope downtime for 2 months to repair main shutter of the dome during August and September.
- Main shutter was deformed by M6.9 earthquake

- We have requested Subaru to finish downtime as early as possible to start transient survey from late September.
  HSC run may start from ~21st Sep (new moon : ~28th Sep).
- Subaru is now trying to start maintenance work from mid July and finish by mid September.
- Details will be determined by the end of March.

Plans for SXDS

- Basically the same as COSMOS survey except for g-band and Y-band
- We will be limited to 5 months (Sep, Oct, Nov, Dec, Jan).
- 1 epoch can be get in Feb. SXDS is observable only ~1 hour.



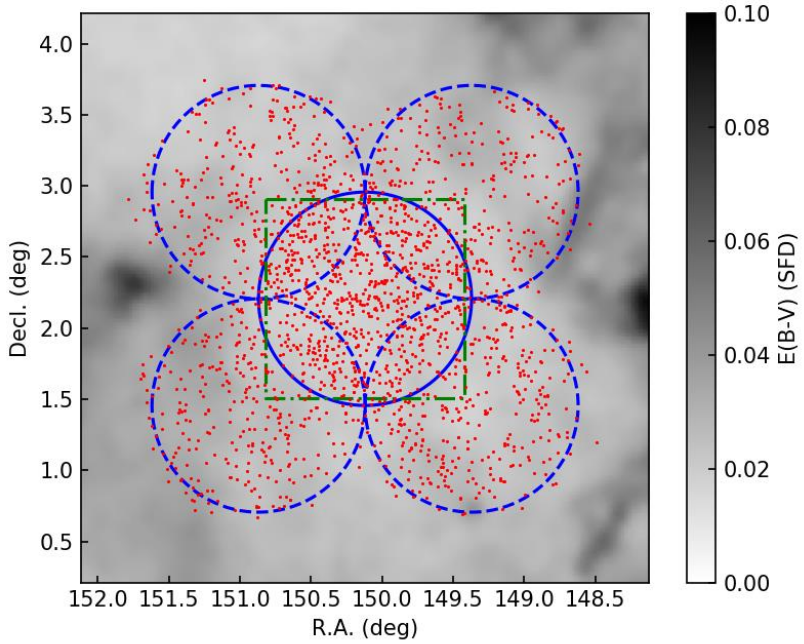
	Ultra Deep (1 FoV)	Deep (3 FoV)
g-band	40min / month will be distributed over one night to detect short time scale transients	← 18 min / month
r-band	20min x 2 epochs / month	← 9 min / epoch
i-band	40min x 2 epochs / month	← 13.5 min / epoch
z-band	55min x 2 epochs / month	← 22.5 min / epoch
Y-band	110min will be observed as 1 epoch per month	← 27 min / month
Schedule	2 epochs in Sep, Oct, Nov, Dec, and Jan (+ 1 epoch in Feb)	1 epoch in Sep 2 epochs in Oct and Nov 1 epoch in Dec

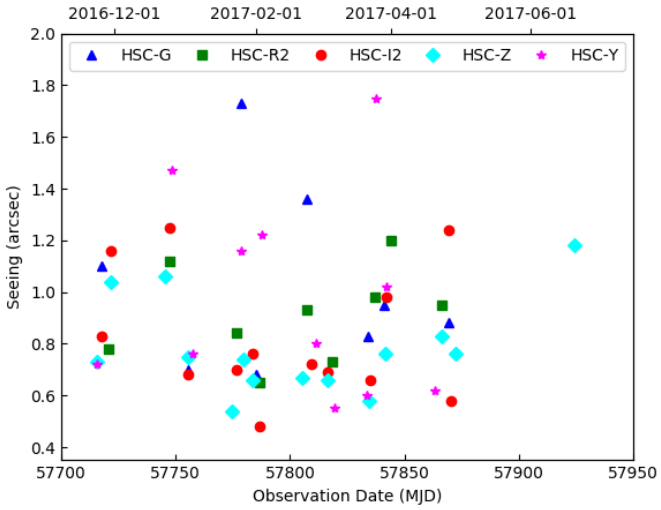
Photometry

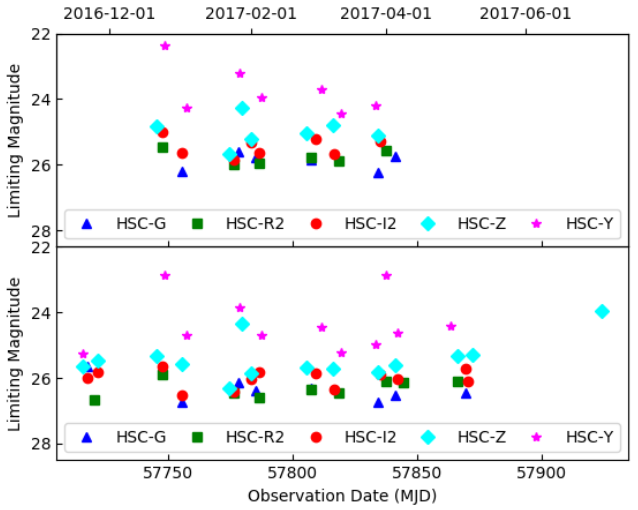
- HSC pipeline based on LSST stack developed by Princeton and UW
- Reference images : coadds of previously taken exposures
  - Seeing : 0.6 – 0.8 arcsec
- Each exposure will be warped, subtracted and coadded
  → difference images
- Detection on difference images
  - More than two events at the same place (< 0.4 arcsec) either two epochs or two bands
    → identify as transients
- Forced PSF photometry on difference images of all epochs

- We are now working on objective SN classification

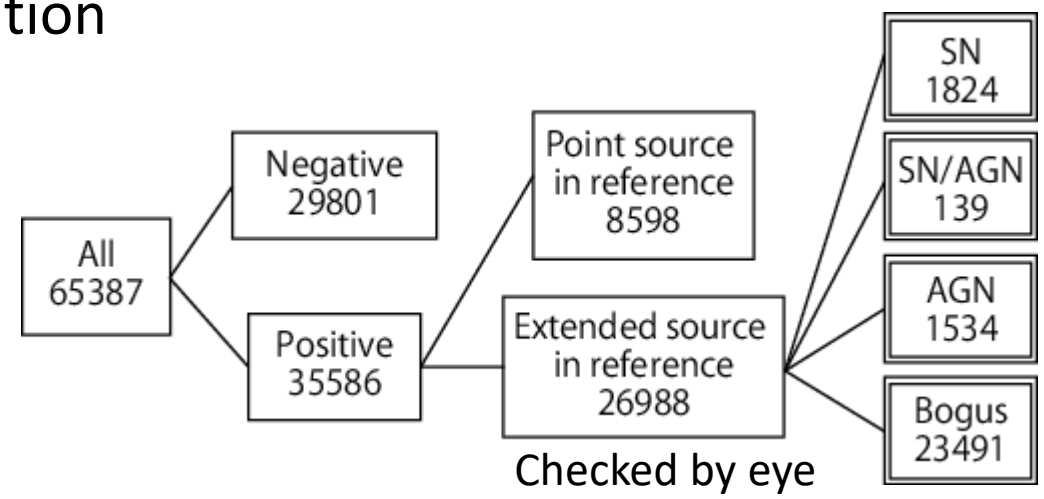
Field and observing conditions



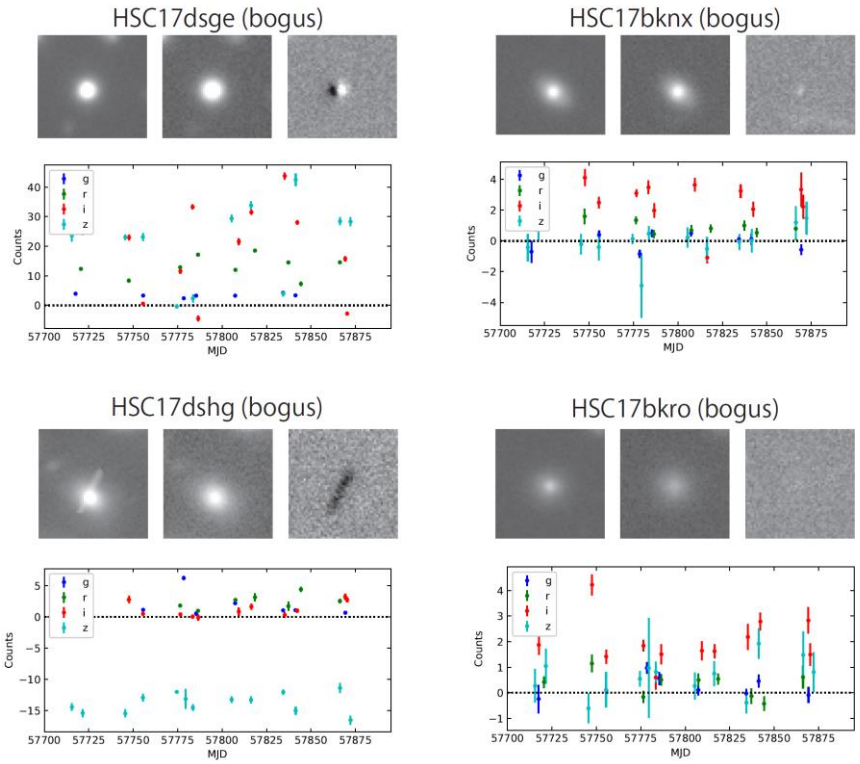




Classification



Examples of bogus



Examples of light curves