

ASIAA/Taiwan Subaru Collaboration: Overview and Future

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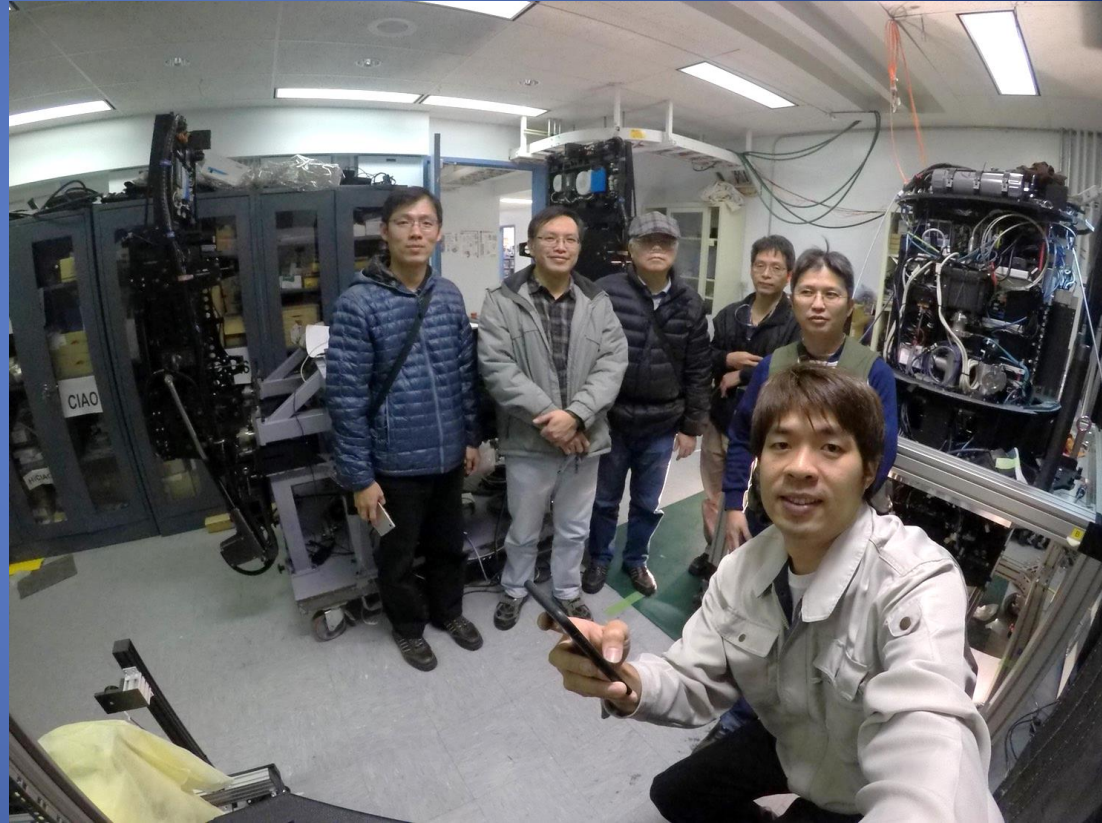
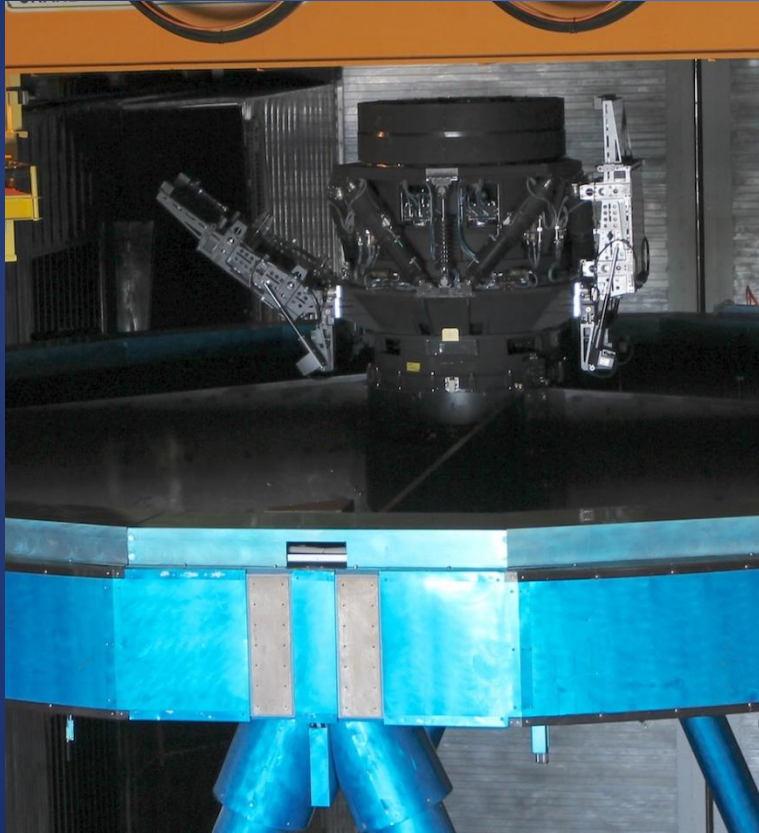
The starting point



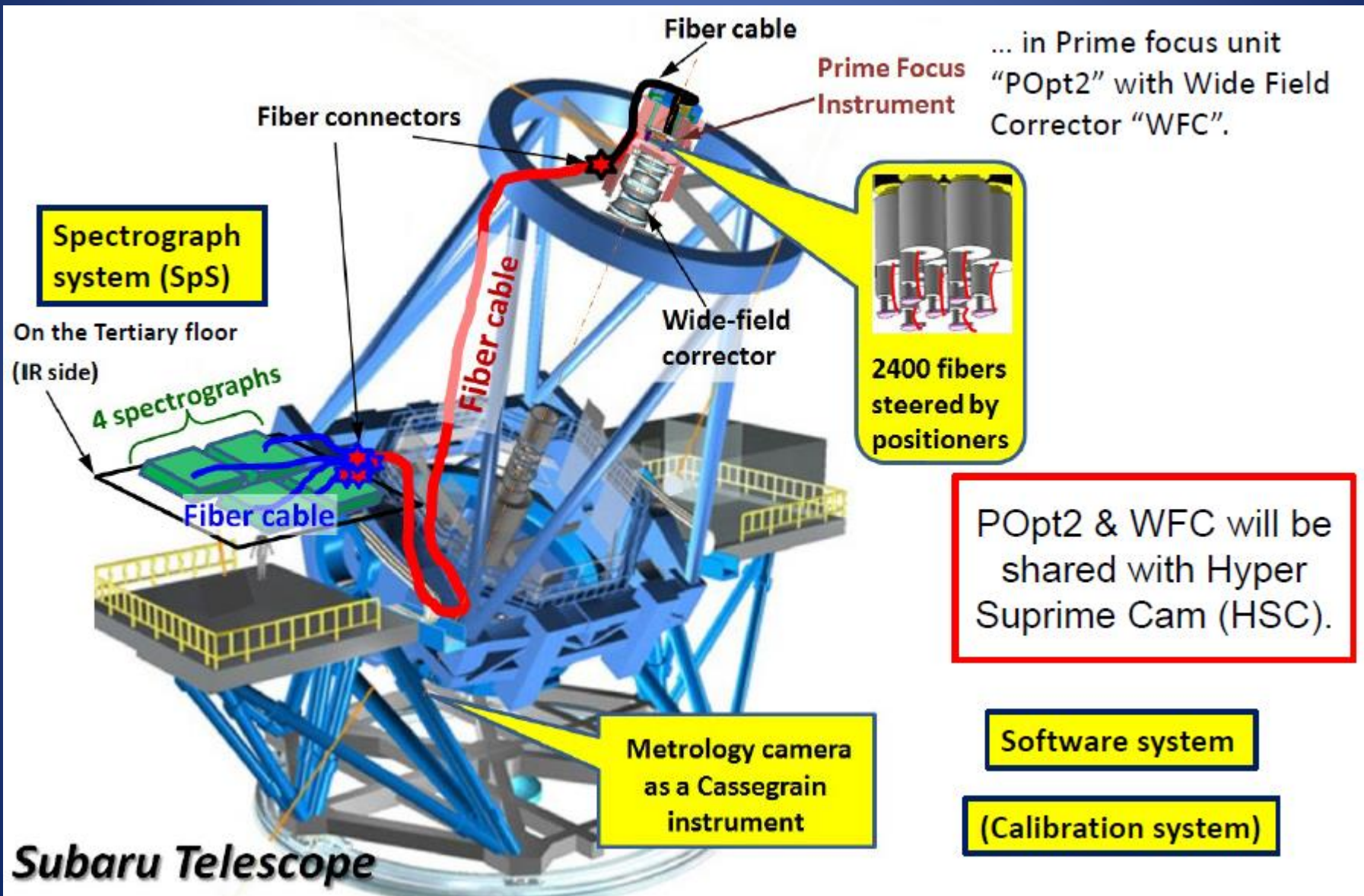
Subaru collaboration

- Started from 2008 for the development of Hyper SuprimeCam
 - ASIAA is responsible for the filter exchanger unit, CCD procurement & test, WFC test system
- HSC Hardware delivered to Hawaii in late 2012
- HSC started science operation in March 2014
- Prime Focus Spectrograph started from 2010
 - ASIAA is responsible for the metrology camera and most work of the Prime Focus Instrument
 - The metrology camera will be delivered in few months
- Help on the detector upgrade of MOIRCS
- Supporting engineer at Subaru in 2017

HSC FEU

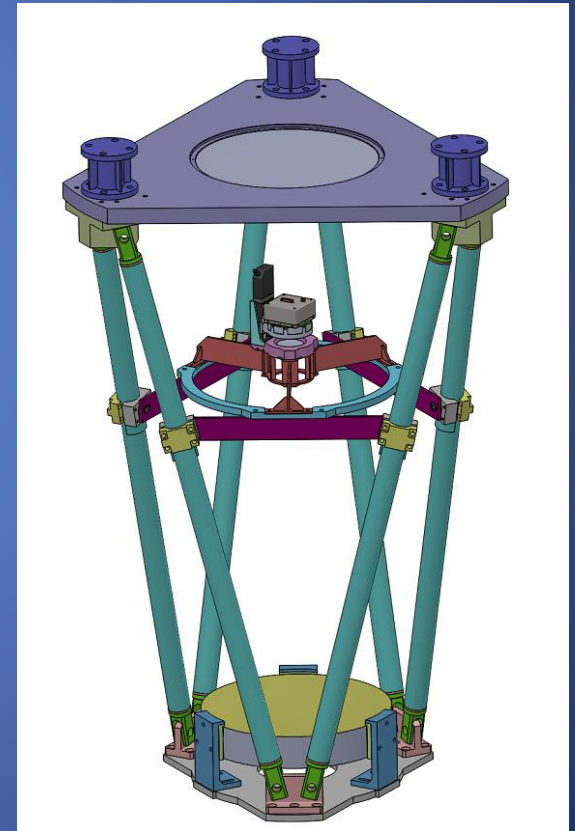
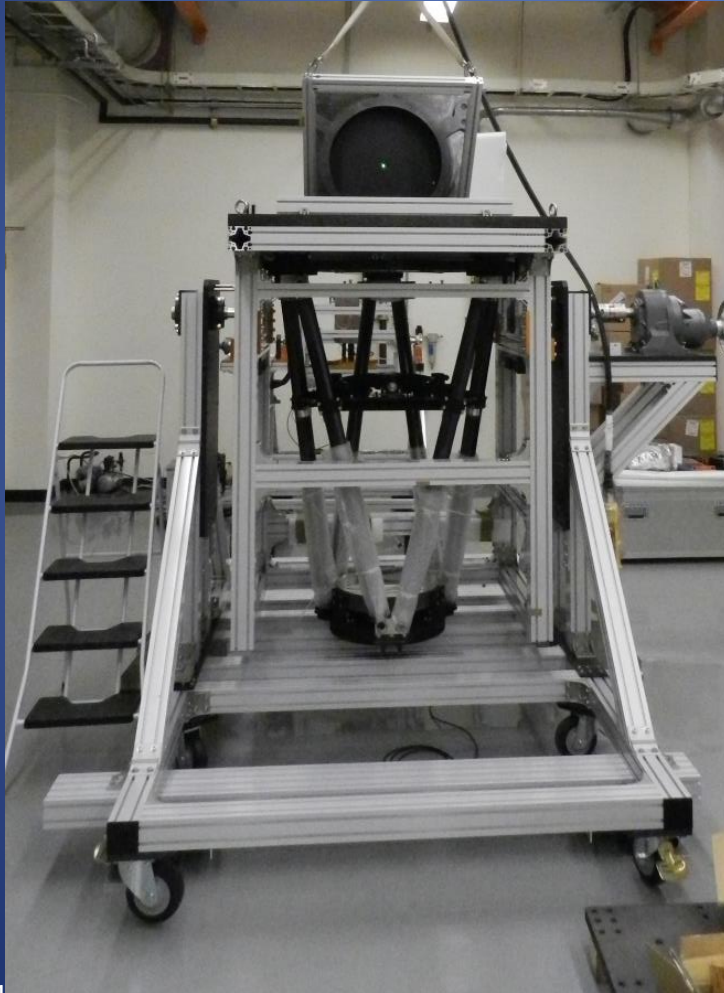


Prime Focus Spectrograph



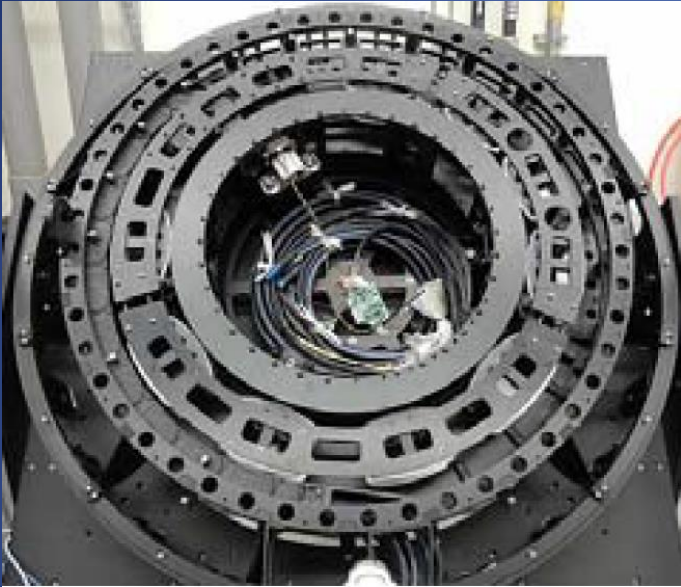
PFS Metrology Camera

- Currently under testing in ASIAA
- To be delivered in March 2018

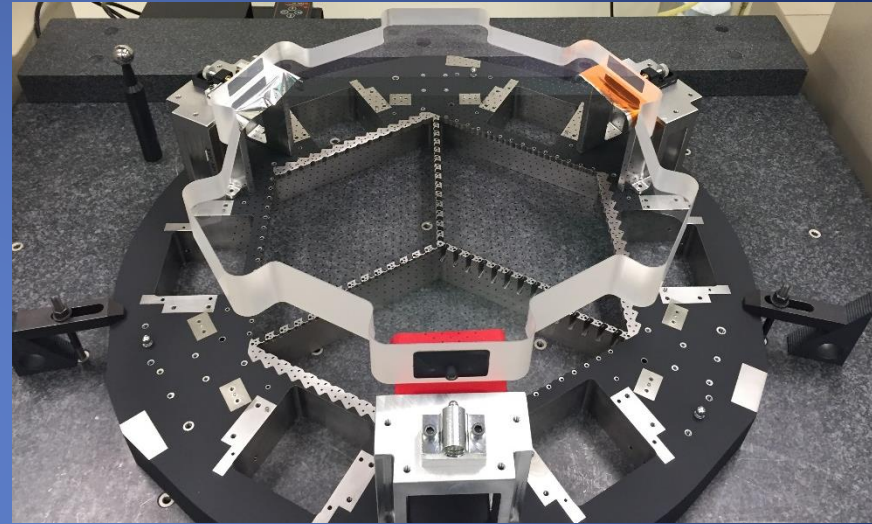


PFI components

Cable wrapper



optical bench and field element



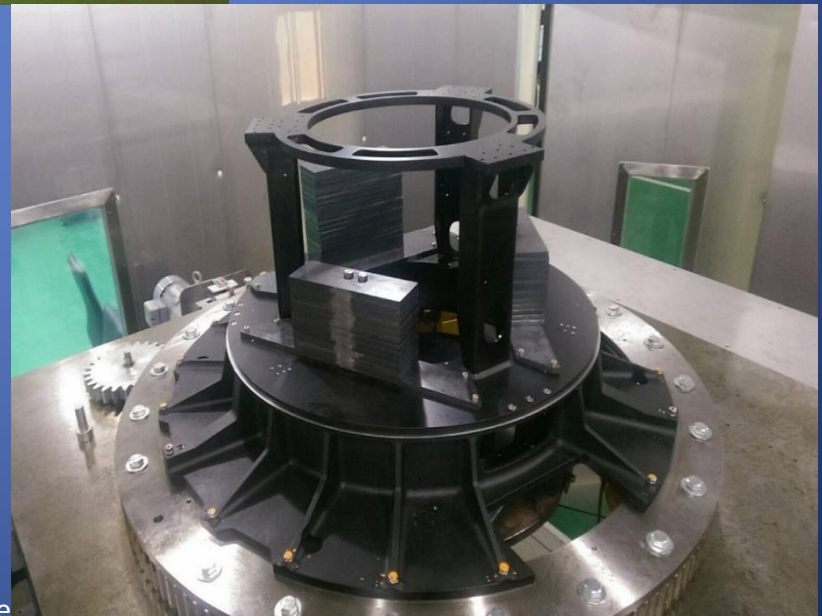
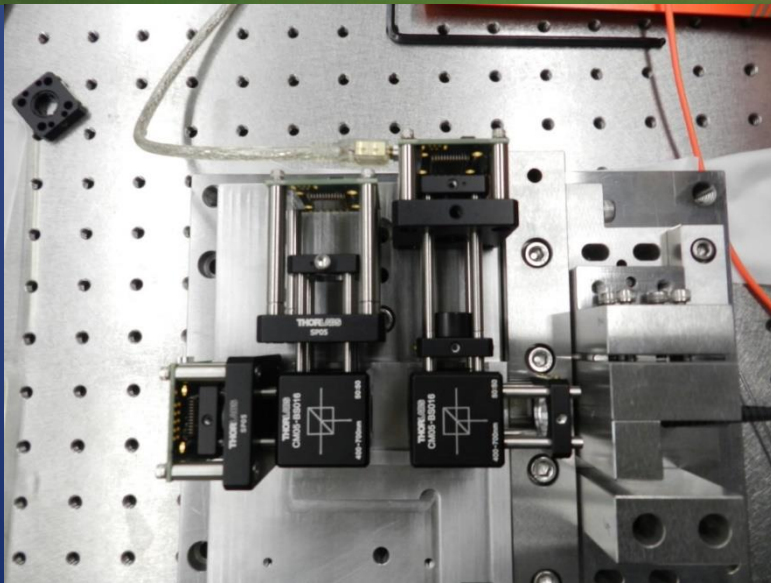
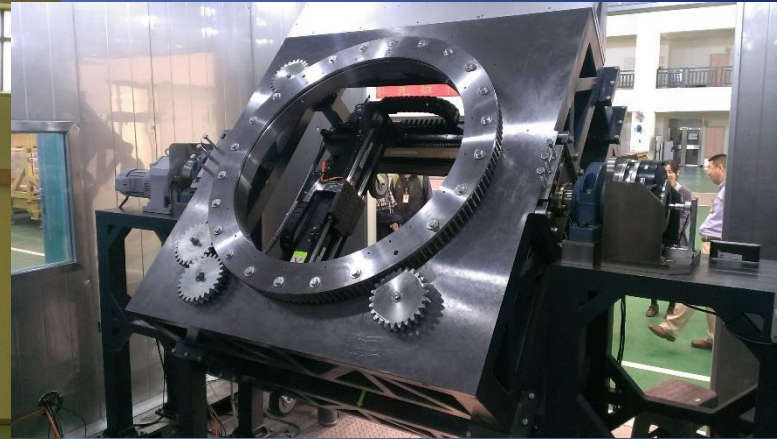
Telescope interface structure



Fitting tests



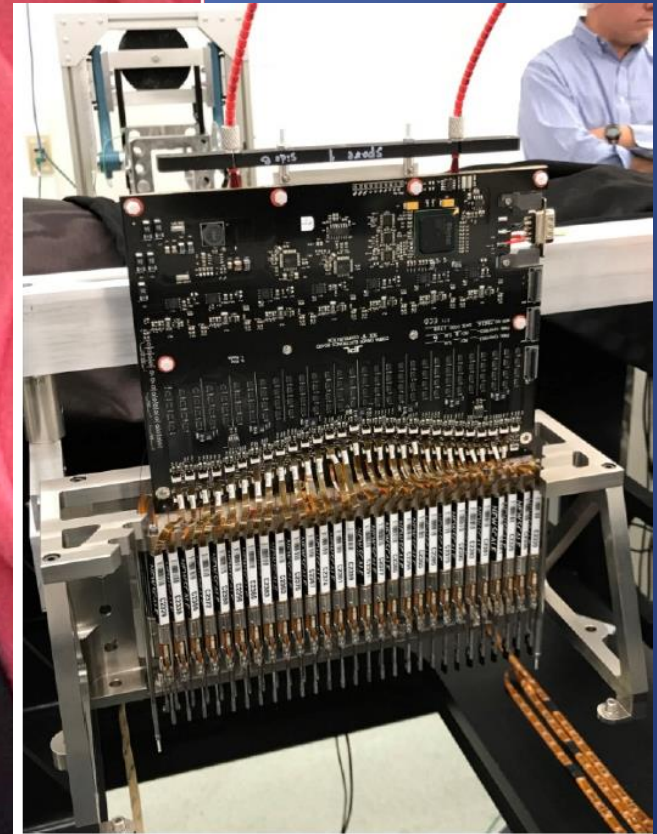
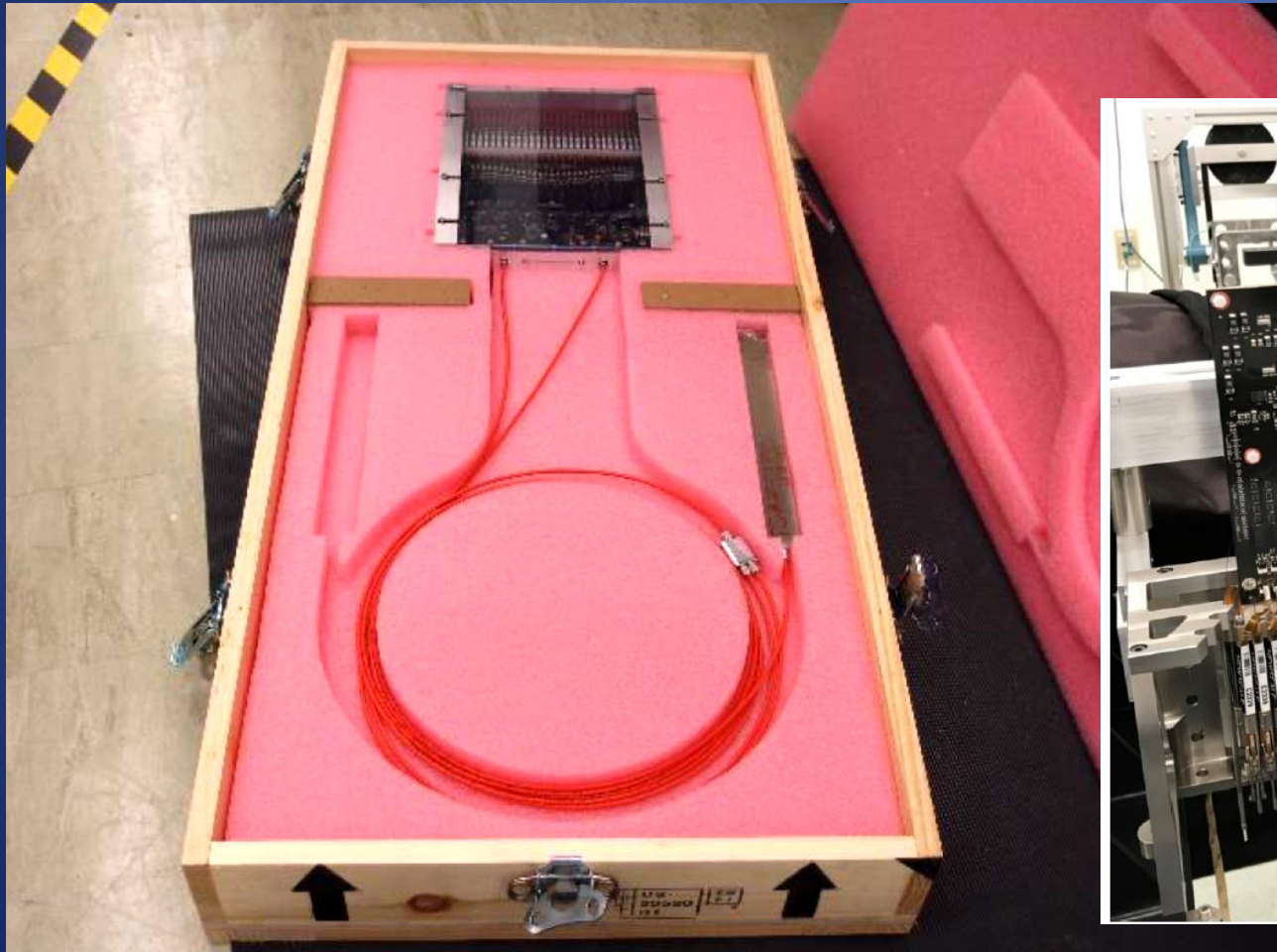
Integration & Test of PFI



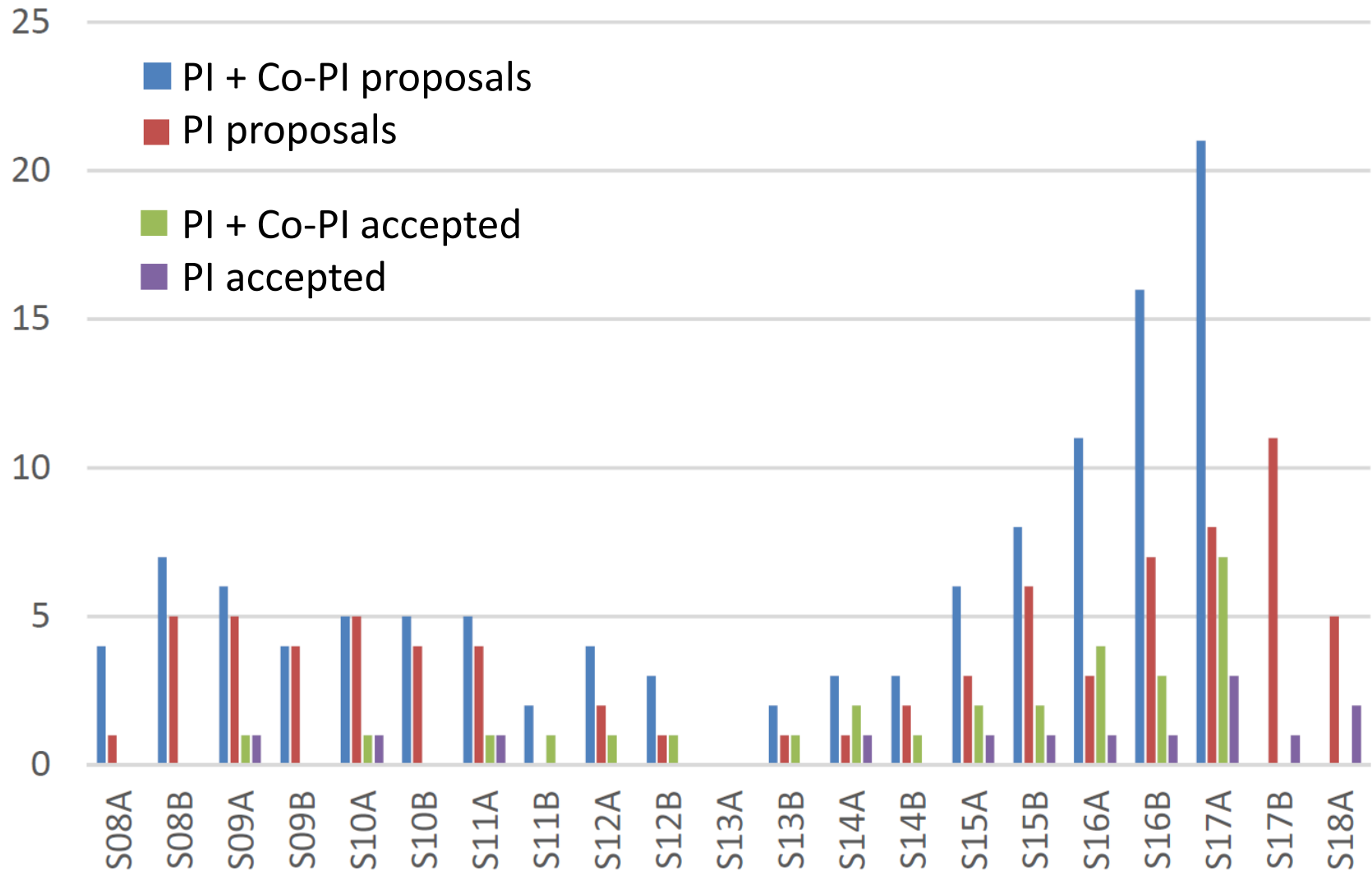
2018/1/18

Subaru User Meeting

The first module to be delivered soon



Proposals from Taiwan



Taiwan HSC SSP papers

- Chan et al. 2016, ApJ, 832, 135 “Galaxy-scale gravitational lens candidates from the Hyper Suprime-Cam imaging survey and the Galaxy And Mass Assembly spectroscopic survey”
- Toba et al. 2017, ApJ, 835, 36 “Clustering of infrared-bright dust-obscured galaxies revealed by the Hyper Suprime-Cam and WISE”
- Jian et al. PASJ accepted “The Role of Group or Cluster Environment In Star Formation Quenching from $z = 0.2$ to 1.1 ”
- Chiang et al. PASJ accepted “Brown Dwarfs in HSC Survey”
- Lin et al. PASJ accepted “Machine Learning Based Real Bogus System for HSC-SSP Moving Object Detecting Pipeline”
- Chen et al. PASJ accepted “Searching Moving Objects in HSC-SSP: Pipeline and Preliminary Results”

Future possibilities

- ASIAA continues the bilateral collaboration with Subaru for ULTIMATE Subaru
- EAO becomes the Subaru partner and ASIAA's contribution counted as EAO's contribution
- Combining TMT and Subaru in the next MOU for ASIAA/NAOJ OIR collaboration

Summary

- The collaboration between ASIAA and Subaru has been quite successful in the past 10 years
 - Instrumentation development and SSP without guarantee time
 - Clear growth of scientific collaboration
- ASIAA will keep certain flexibility for the different modes of future collaboration