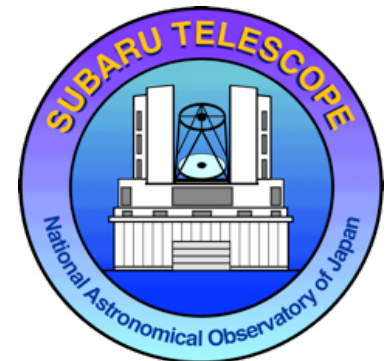


# Subaru Instrument Plans toward ~2020s

Subaru internal discussion & discussion items in Subaru UM FY2016

Y. Koyama, I. Iwata, Y. Minowa, T. Hattori



# Background

- Two major milestones :
  - PFS commissioning – starts in 2017, EFL 2019
  - TMT operations – FL will be in late 2020s.
- Reduction of operation budget from government.
  - International Operation
- Trying our best to reduce the operation cost.
  - Pursue more “efficient” telescope/instrument operation – e.g. by reducing the frequency of instrument exchange.
- Our direction: focus on wide-field survey.
  - Reduce the number of facility instruments (decommission) while keeping the unique capabilities of Subaru.

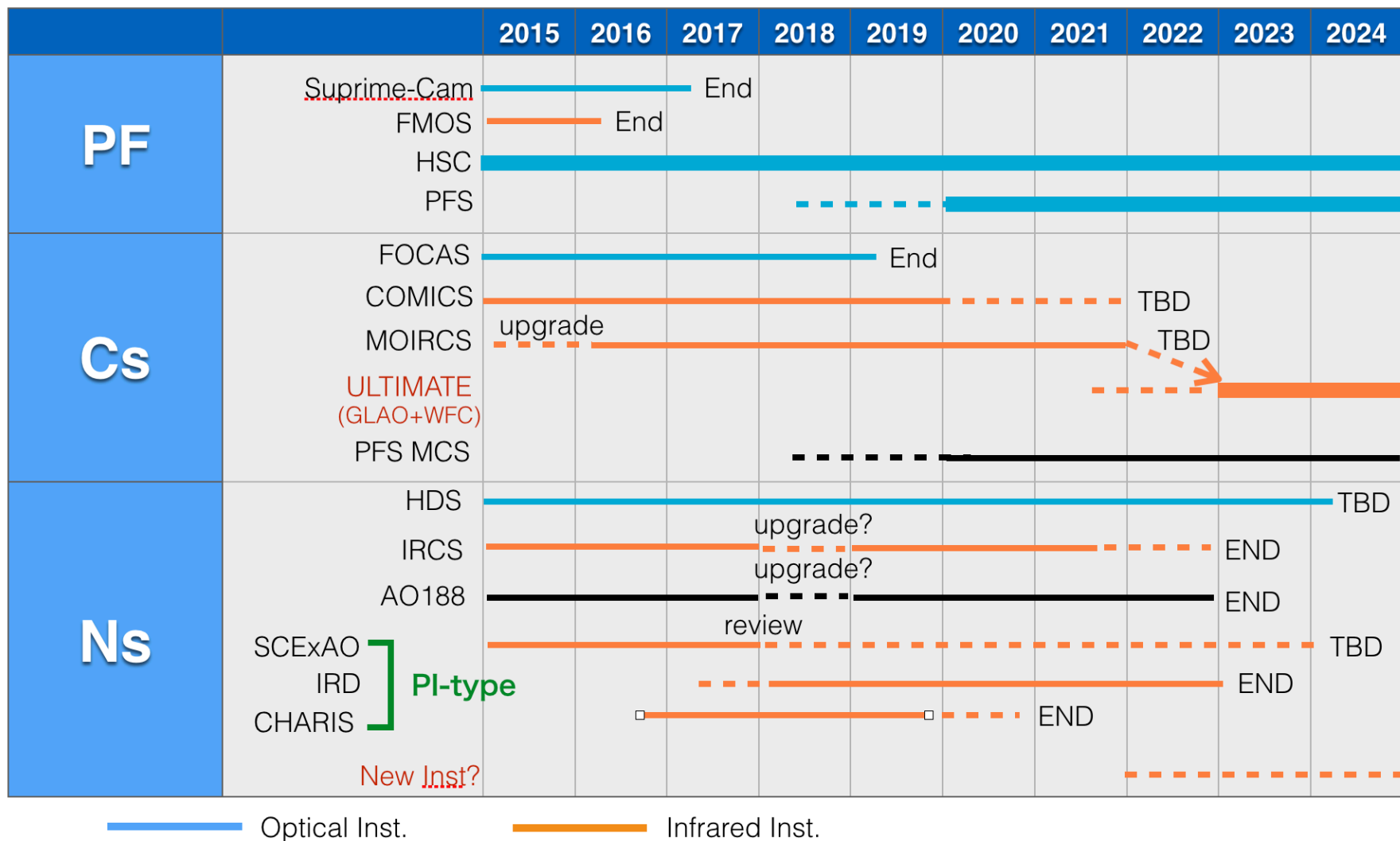
# Instrument planning activity

- Instrument Planning Task Force in ~2014
  - Member: H. Fujiwara, T. Hattori, M. Imanishi, I. Iwata, N. Kashikawa, Y. Minowa, N. Narita, N. Takato, Masaomi Tanaka
  - Detailed survey/investigation/scoring (publication, workroad, competitiveness,...) on each instrument.
  - Task force web: <http://www.naoj.org/Projects/newdev/instplan2015/TF/>
- Subaru internal discussion WG in ~2016
  - I. Iwata, T. Hattori, Y. Minowa, Y. Koyama
  - All records of the discussion since 2014:  
<http://www.naoj.org/Projects/newdev/instplan2015/>

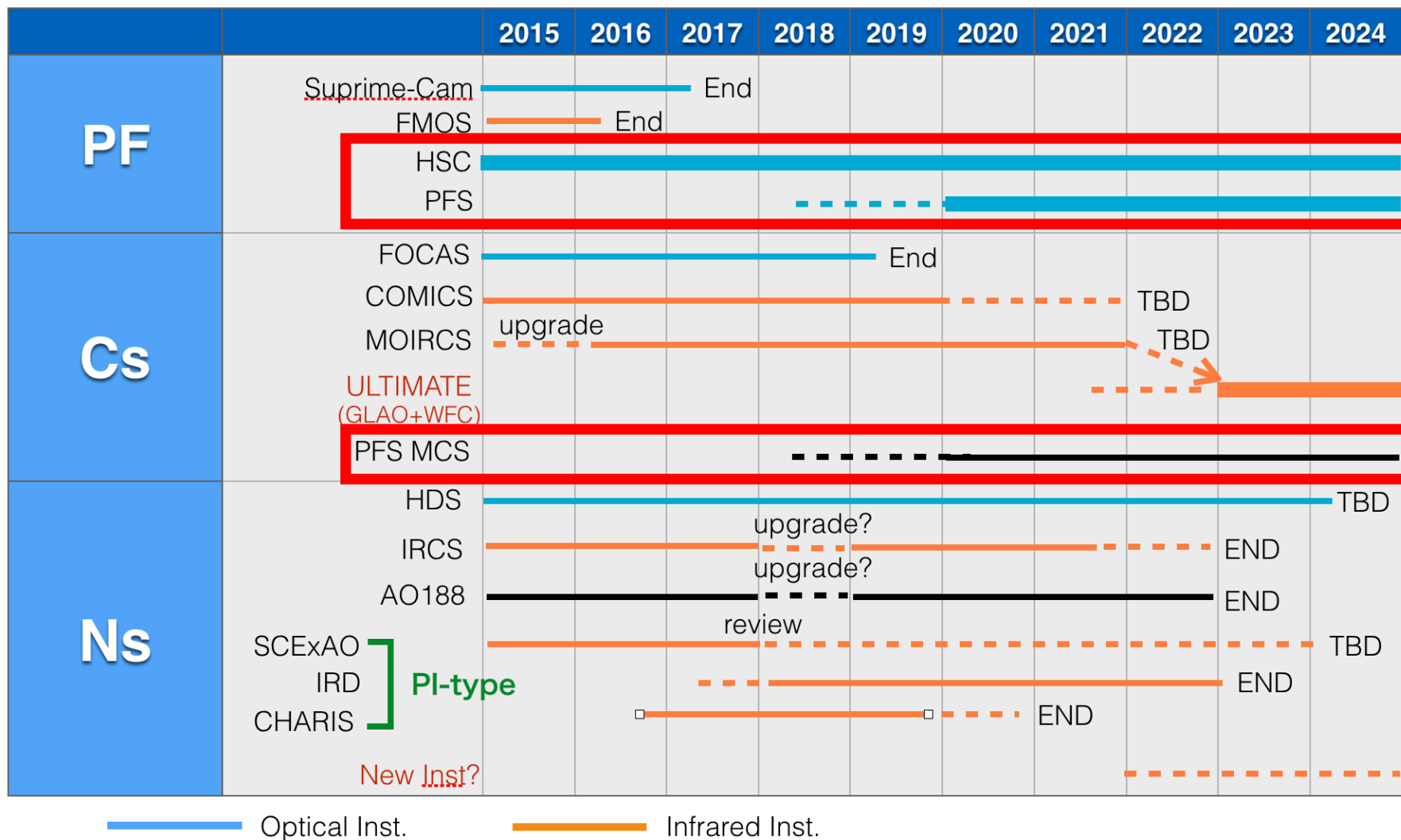
# Timeline (in HST)

- 2016/09/21: Kick-off meeting (Koyama/Iwata/Minowa/Hattori)
- 2016/10/21: Follow-up meeting (Koyama/Iwata/Minowa/Hattori)
- 2016/11/14: Meeting w/ SciOp Division
- 2016/12/16 : Meeting within Subaru
- 2016/12/19 : Discussion in SAC
- 2016/01/09 : Discussion with community in Subaru UM

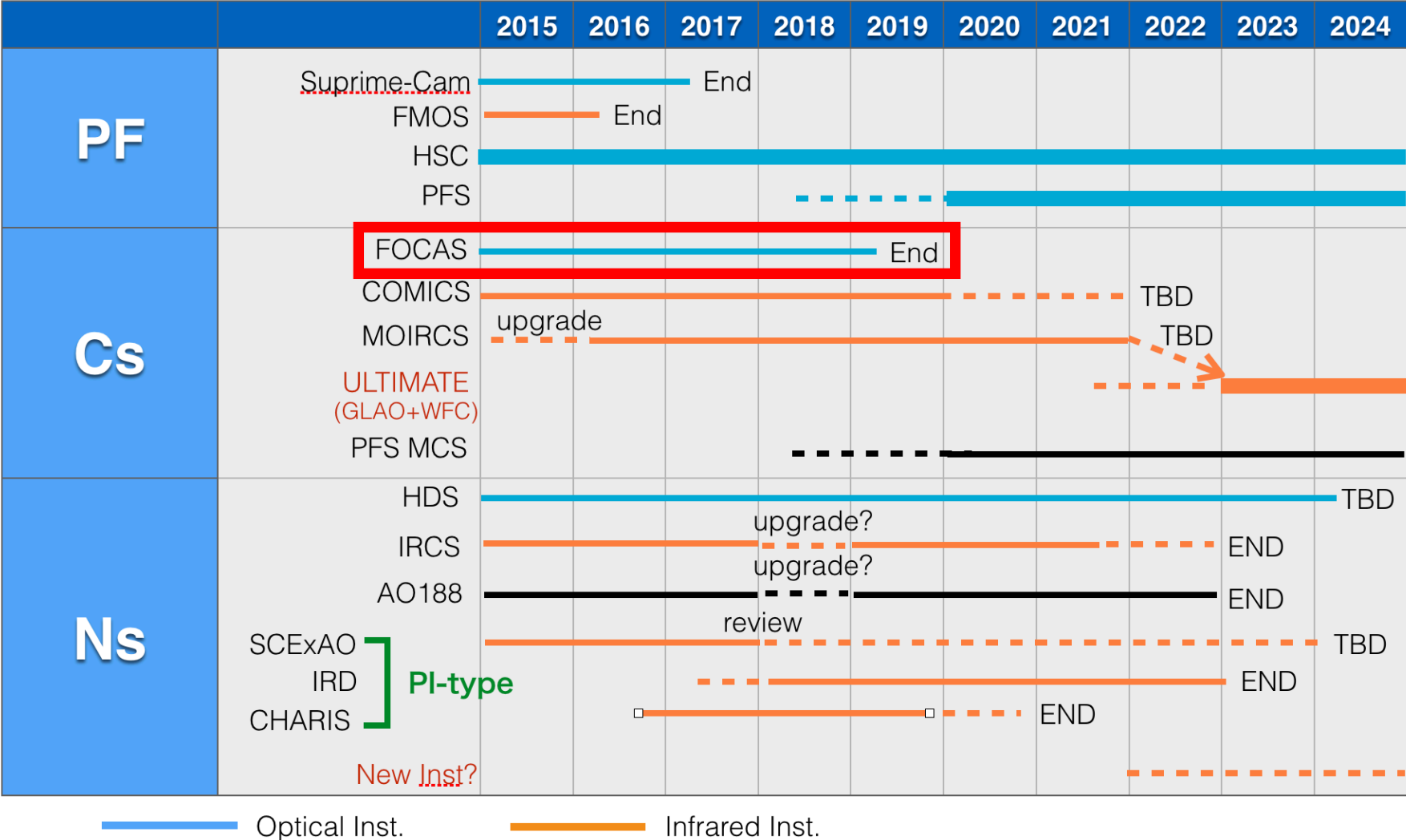
# Subaru Telescope Instrument Timeline (version 2016/12/16)



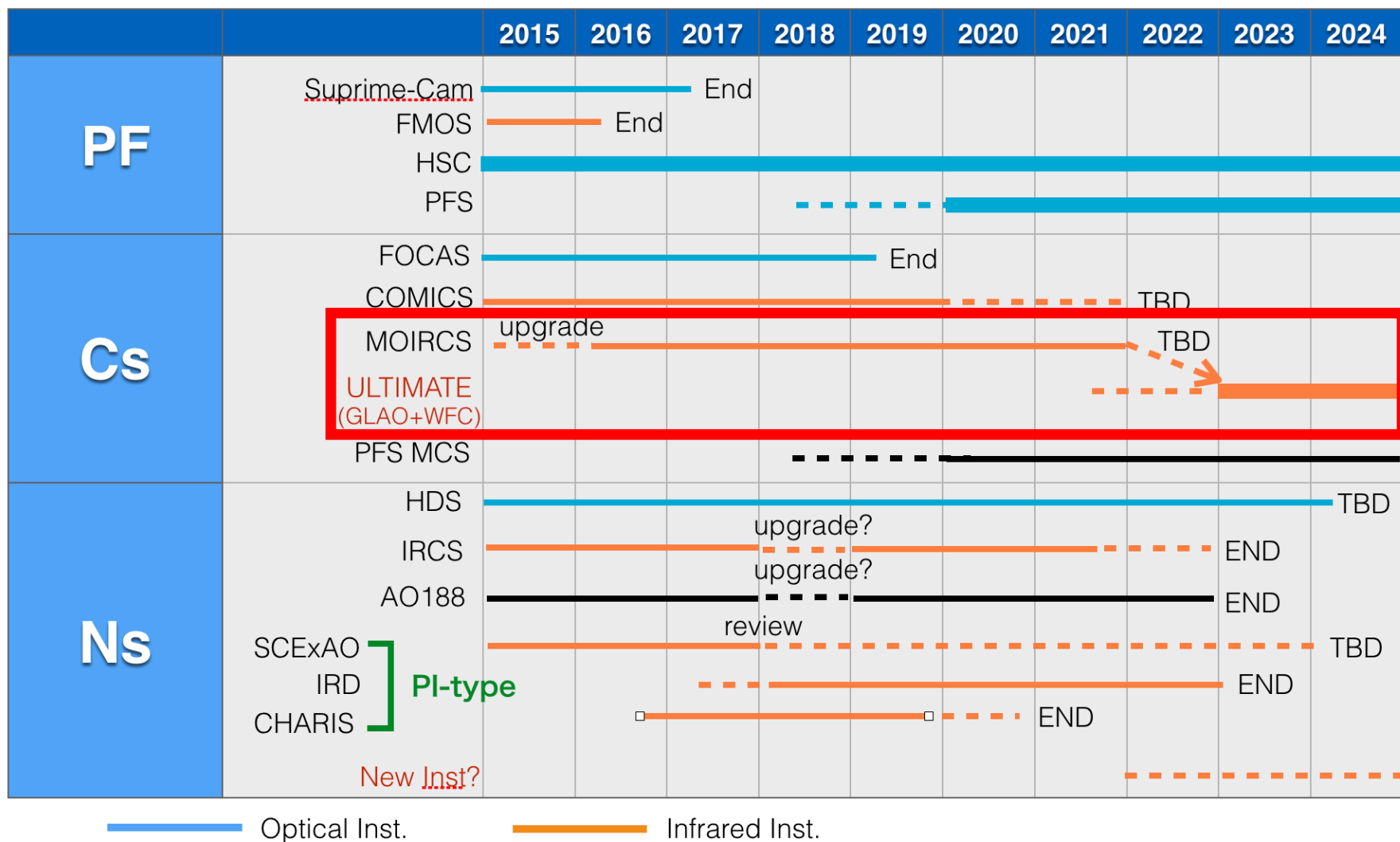
# Subaru Telescope Instrument Timeline (version 2016/12/16)



# Subaru Telescope Instrument Timeline (version 2016/12/16)

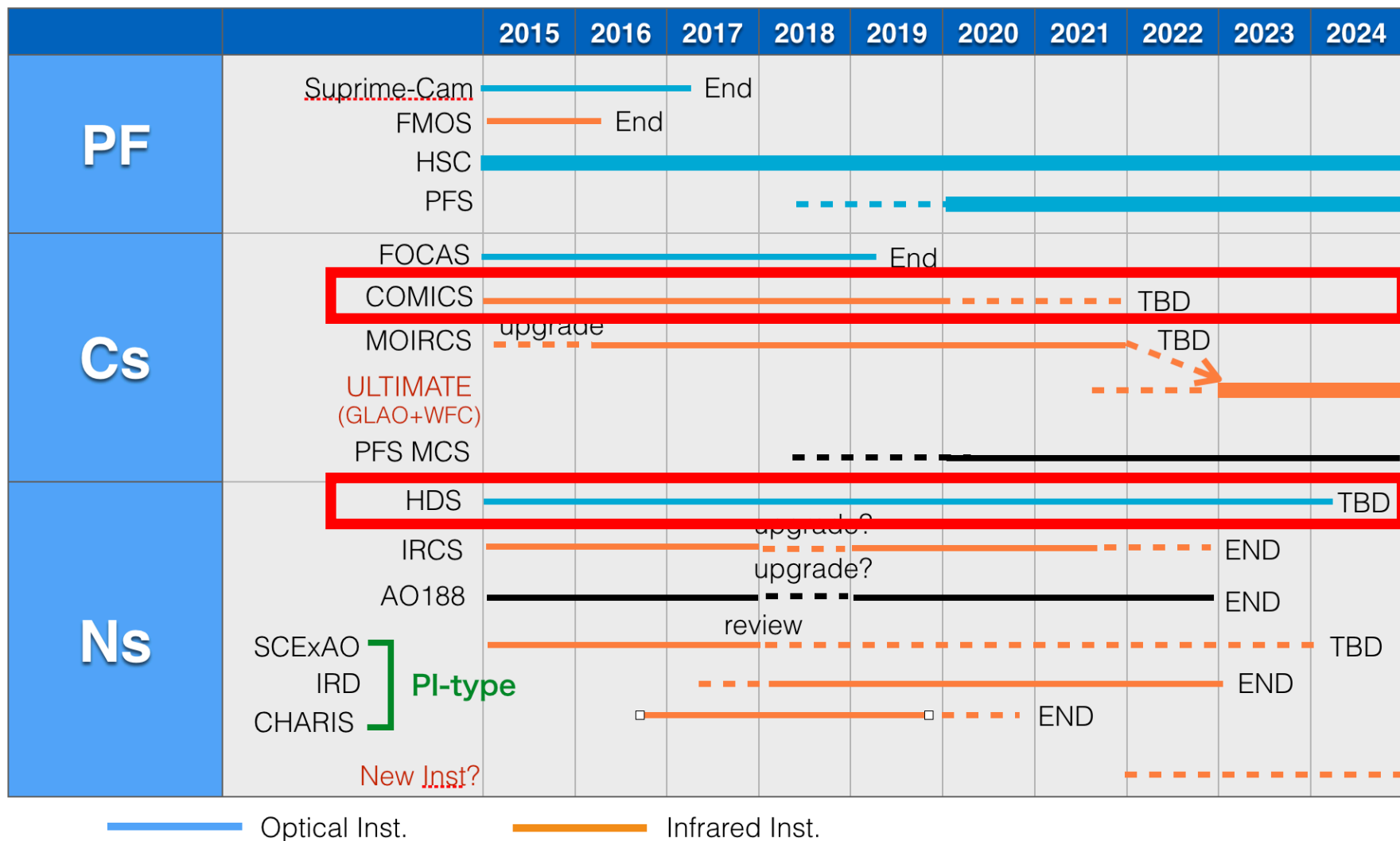


# Subaru Telescope Instrument Timeline (version 2016/12/16)

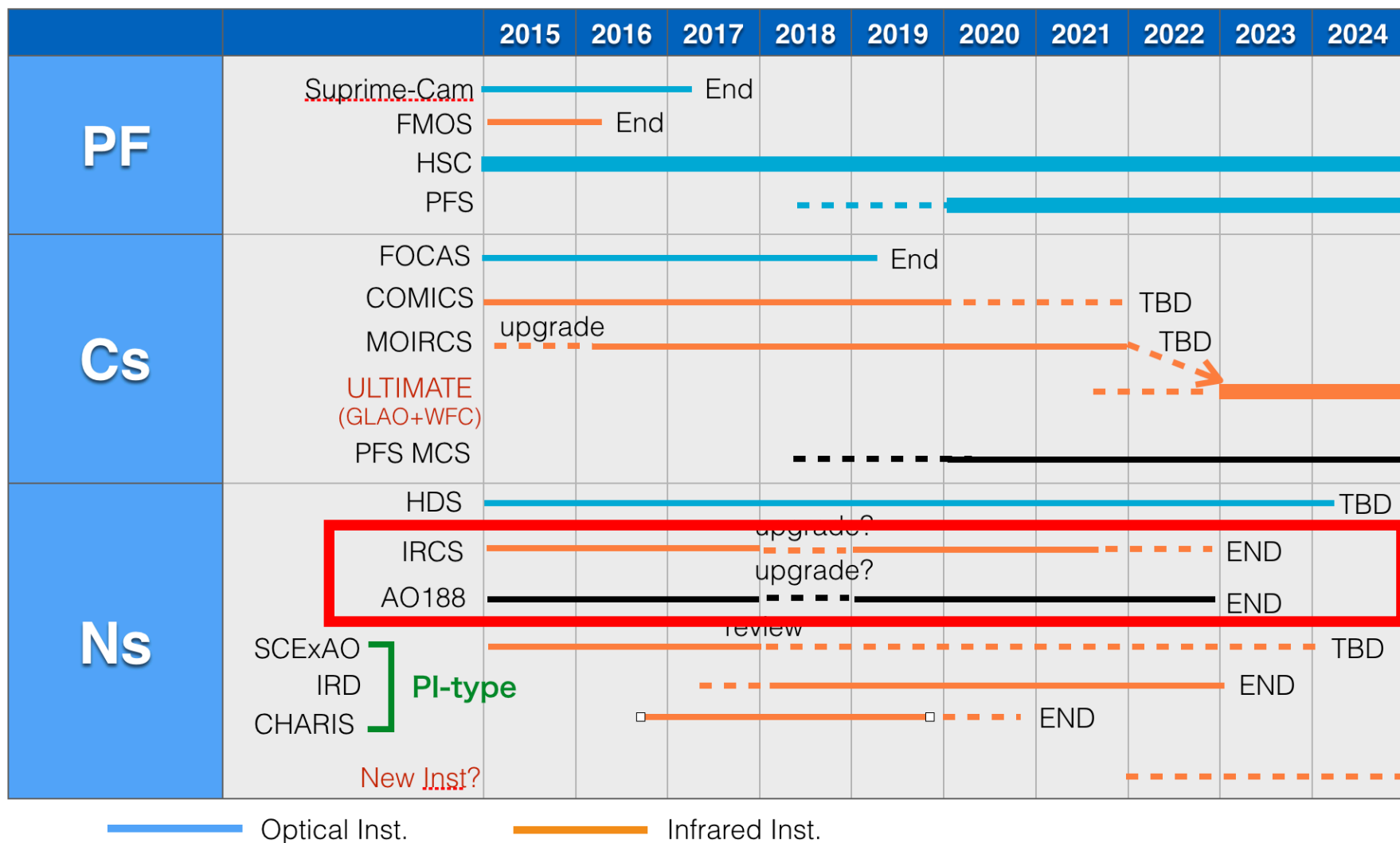




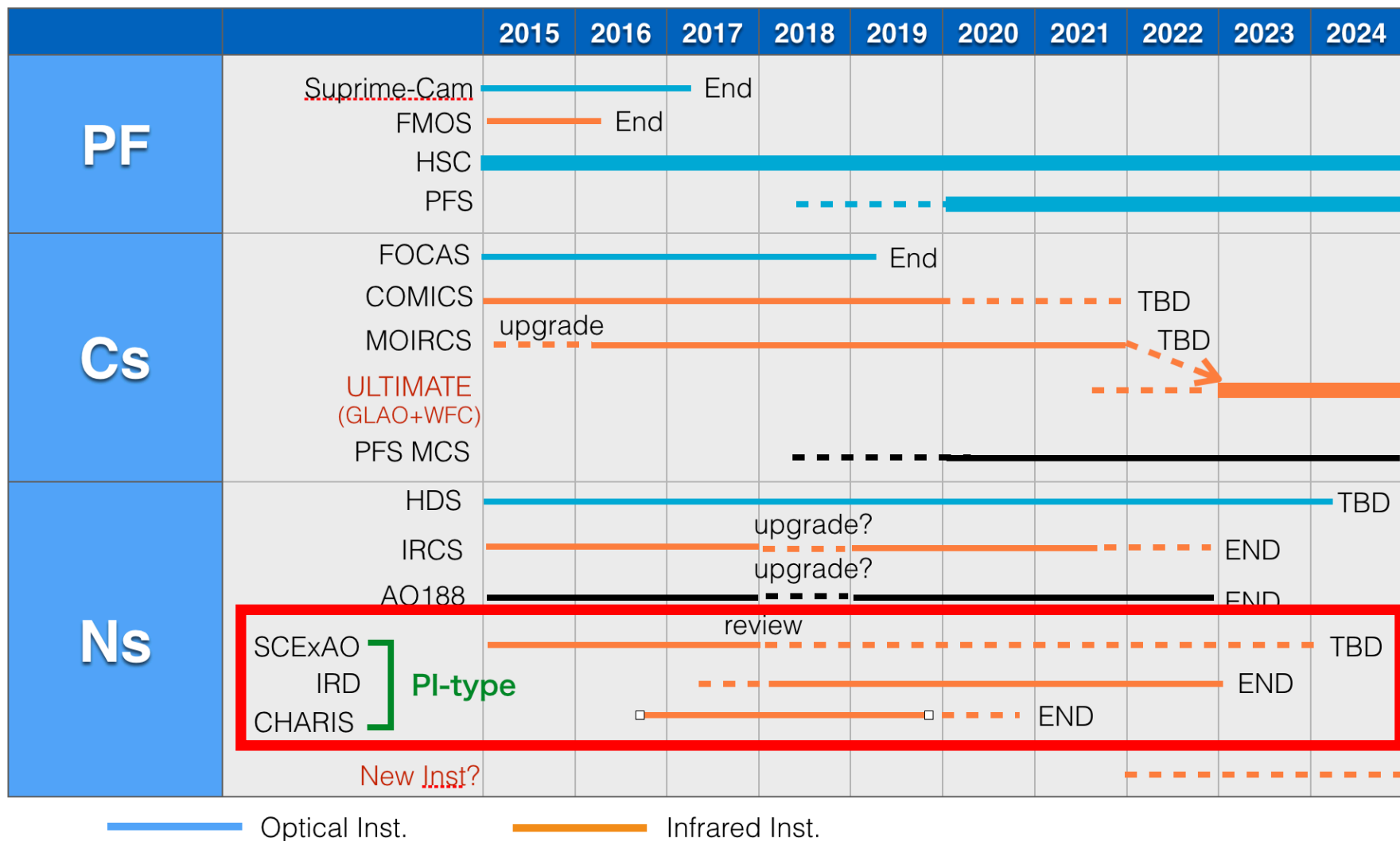
# Subaru Telescope Instrument Timeline (version 2016/12/16)



# Subaru Telescope Instrument Timeline (version 2016/12/16)

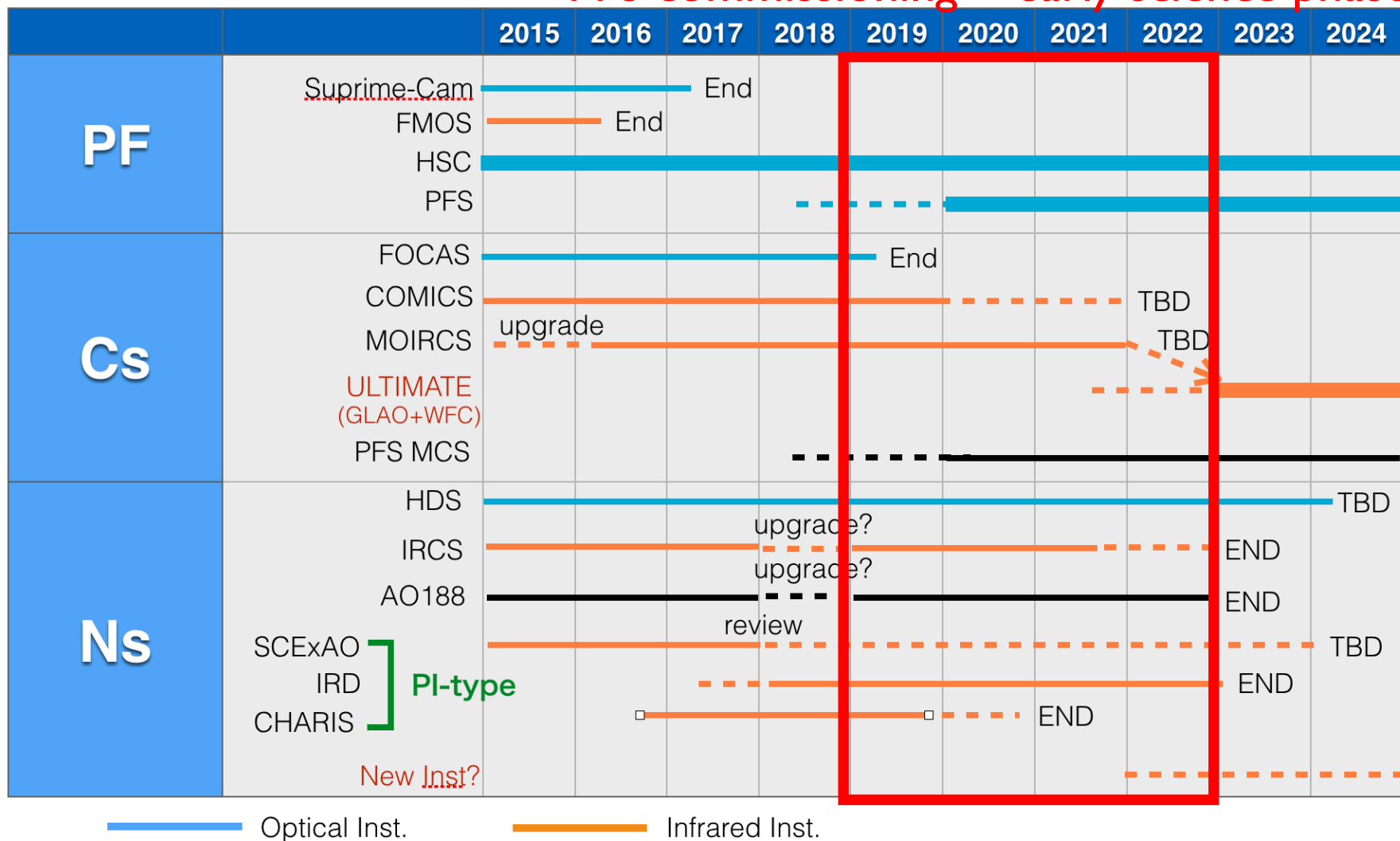


# Subaru Telescope Instrument Timeline (version 2016/12/16)

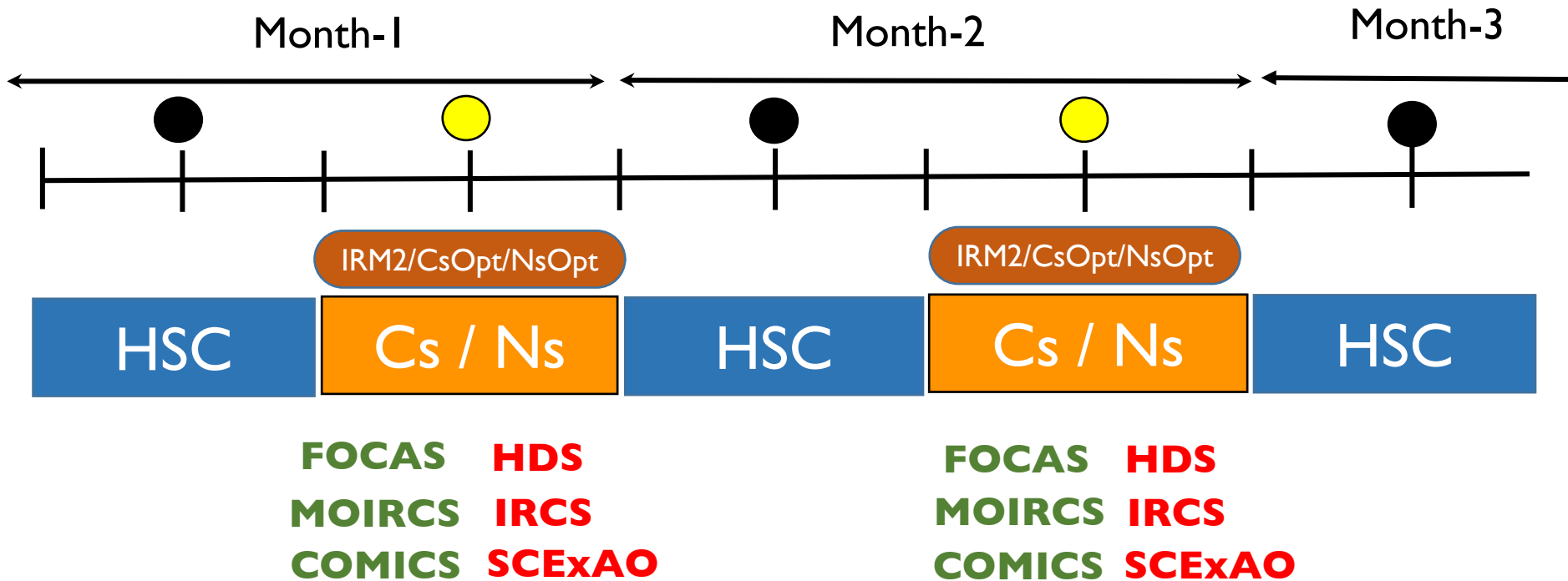


# Subaru Telescope Instrument Timeline (version 2016/12/16)

PFS commissioning + early science phase

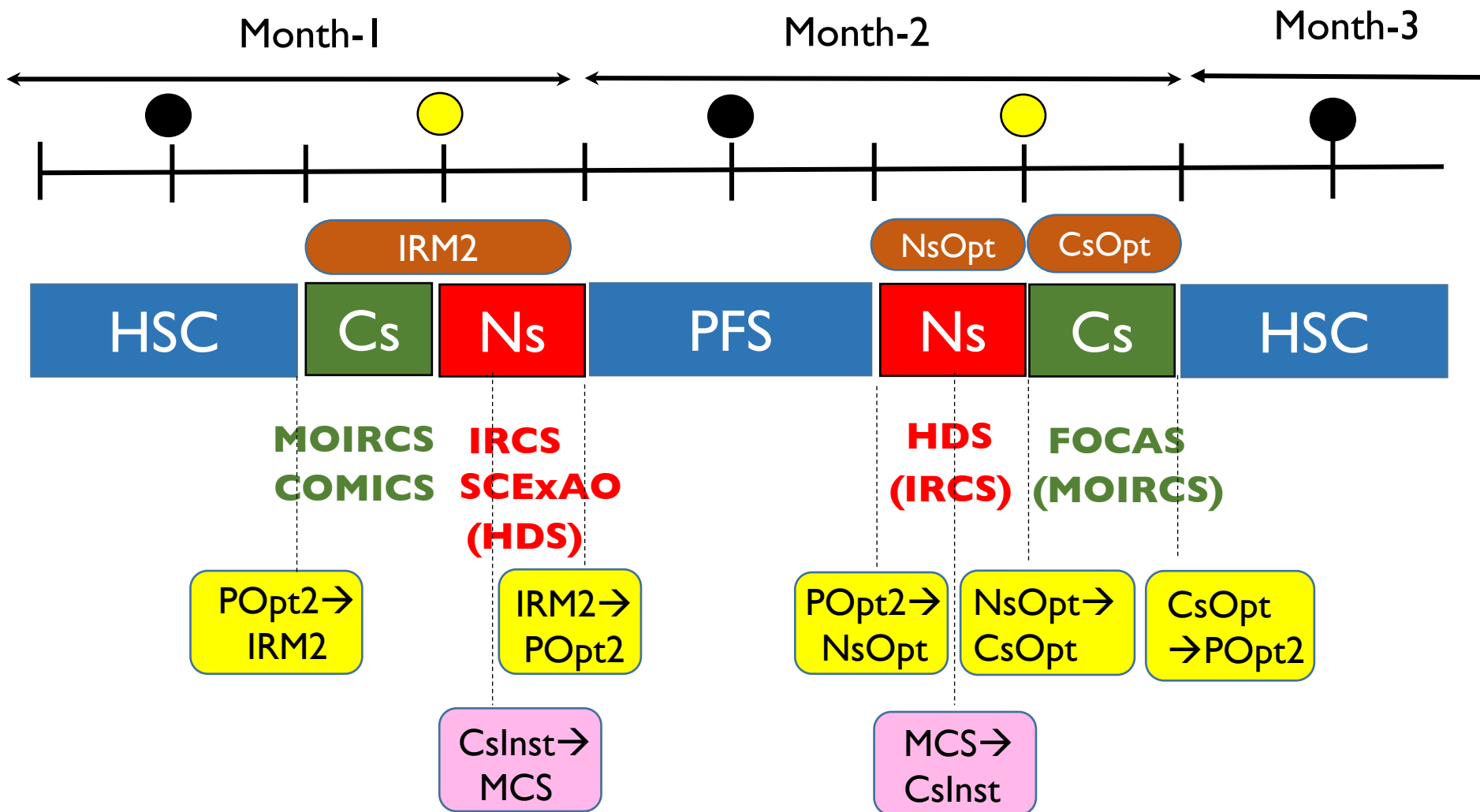


# Instrument exchange schedule (current situation)

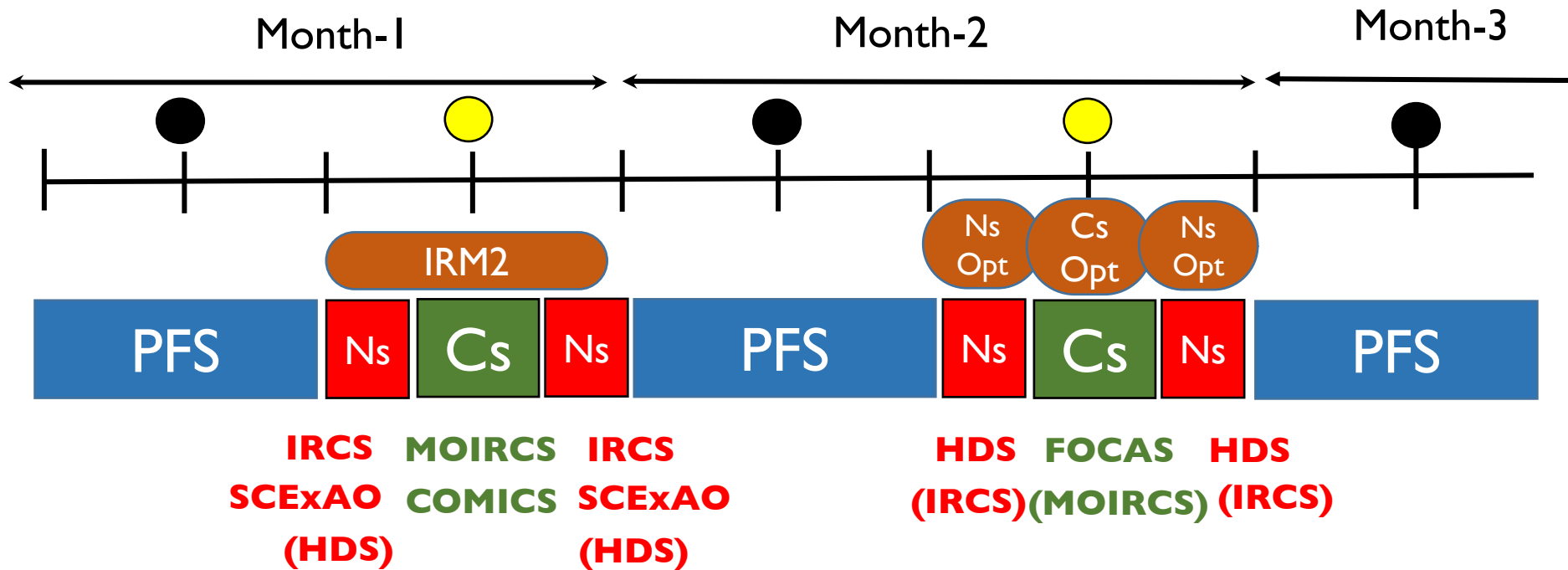




# Example of instrument exchange schedule in PFS era (I)

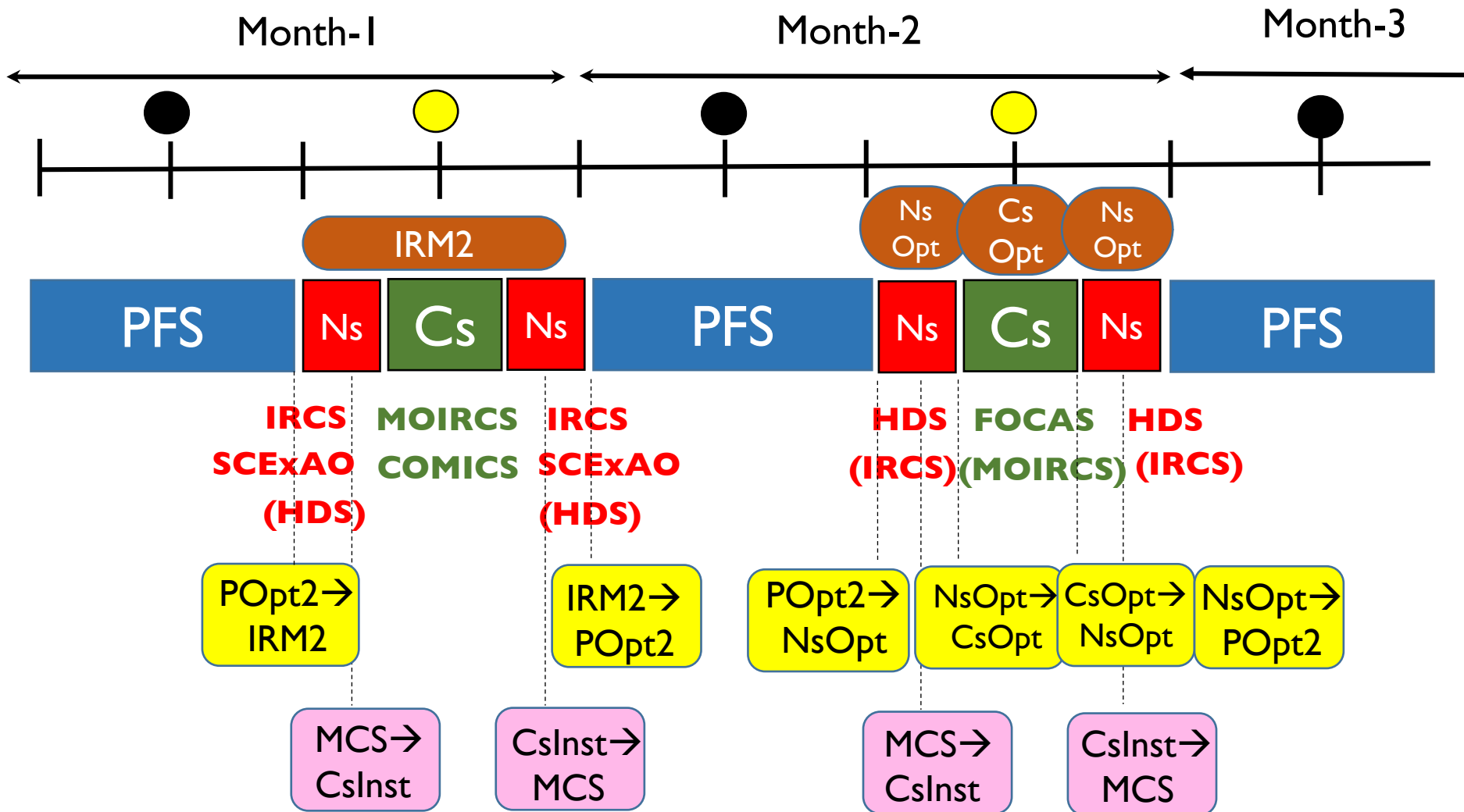


# Example of instrument exchange schedule in PFS era (2)

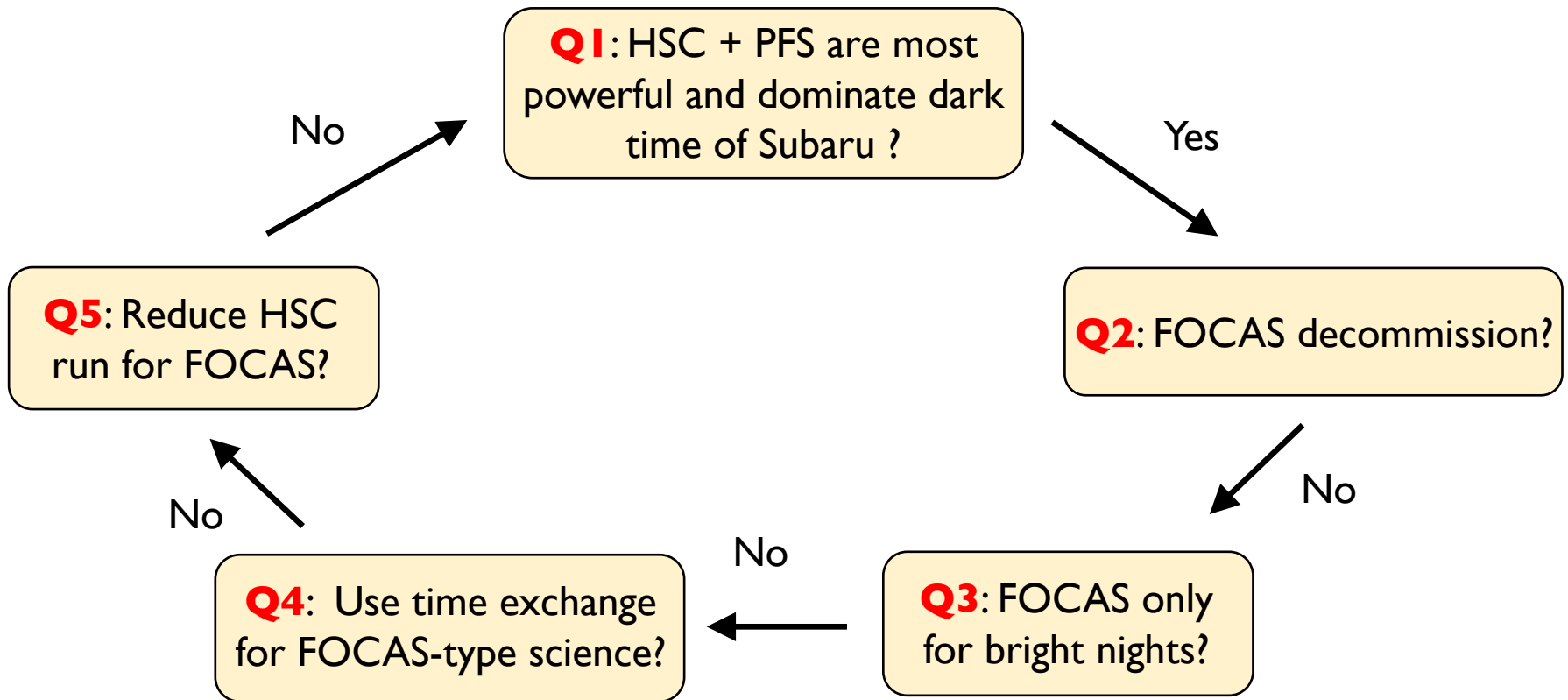




# Example of instrument exchange schedule in PFS era (2)



# “FOCAS paradox”



# Summary & Discussion

- Major issue:
  - Decommission of FOCAS (S18B?) for PFS commissioning.
- Other key points
  - HSC & PFS will dominate dark nights.
  - Keep MOIRCS as the 1<sup>st</sup>-light instrument of ULTIMATE.
  - Keep HDS & COMICS as long as possible.
  - Keep upgrading IRCS & AOI88 to lead Subaru AO activity.
  - Encourage PI-type instruments (as long as Subaru resources allow) - to promote instrumentation activity in Japan (+ others).