

# Keck SSC Meeting (Public Notes)

April 30, 2015

# Observatory Report

- Actions requested at the last SSC meeting
  - Track engineering time usage
  - Establish budget contingency policy
  - Develop a full understanding of the implications of instances where human intervention at the summit is currently needed to restore observing operations
- Proposals
  - NSF/ATI proposal planned for NIRSPEC upgrade to carry out PRV using H-band laser comb or H/K band gas cells. Aiming for 10x improvement from 50m/s to 5m/s with goal of 1-2 m/s. Submission is contingent on success of currently being considered NSF/MRI for the basic detector upgrade.

# Observatory Report (Cont'd)

- Staffing
  - Chief Scientist interviews underway
  - SA group back to full strength with two new hires to arrive summer 2015
- NIRES
  - focus and spectral format looks good
  - detector noise issues; 2-3 times expected read noise
    - Testing whether due to power supply
    - Problems with hot pixels or bias level settings
  - Have been working on this debugging for the last ~2 months
  - Shipping expected early July
  - Worst case mitigation is change from Leach controller to ASIC
  - Possible shared-risk science in 2015B

# Observatory Report (Cont'd)

- Engineering time usage 2010A-2014B
  - 2600 hours
  - Weather loss 18%
  - Telescope 37% (68% of this is primary and exchange, with rest divided into pointing/tracking, magiq, tcsu)
  - Instruments 17% (in decreasing order MOSFIRE commissioning at 26%, OSIRIS at 24%, NIRC2 15%, NIRSPEC at 11%, LRIS, HIRES, DEIMOS, ESI)
  - AO development 17%
  - Interferometer 12%

# FY16 Annual Plan

- Drivers of current cost overrun
  - Obsolescence upgrade active control system communications h/w and s/w for primary mirror
- FY16 annual plan
  - Consistent with 5-year plan within \$500k
  - Proposals pending for NIRSPEC, PSF. SHREK efforts included in plan assume funding post SDR
  - Priorities for staff allocation (routine ops and segment repair at top, instrument upgrades towards bottom)

# FY16 Major Projects

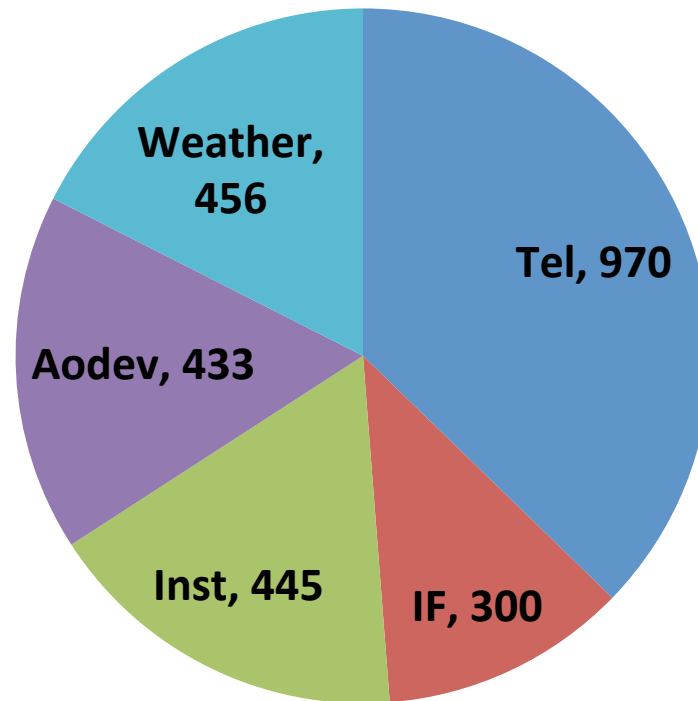
- NIRES
- KCWI-B
- KCWI-R
- OSIRIS upgrades
- PSF Facility
- NIRSPEC upgrade
- K2 laser
- Enhanced AO Tip/Tilt
- AO Perf. Optimization
- Concept studies
- TCS Hazard Mitigation
- ACS obsolescence upgr.
- PCS obsolescence upgr.
- Segment Repair
- Spare secondary
- Seismic study
- Cable wrap study
- Az. brake upgrade
- Unattended Night Ops
- Summit PV

# SSC Questions about FY16 Planning

- Funding structure for NGAO is evolving.
  - Expect information about private donor soon.
  - SSC (at March meeting) supported development of MSIP proposal concept.
  - Project should seek endorsement for MSIP proposal at June SSC meeting.

# Use of Engineering Time

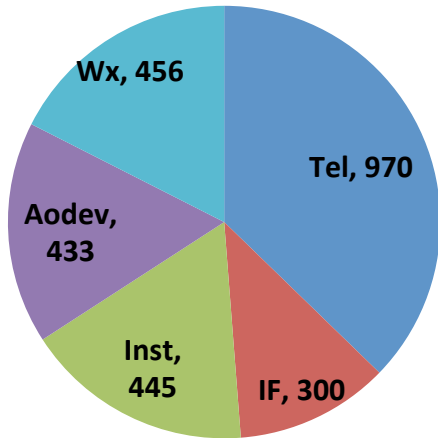
2010A-2014B Engineering Time: **2603**  
**Hours**



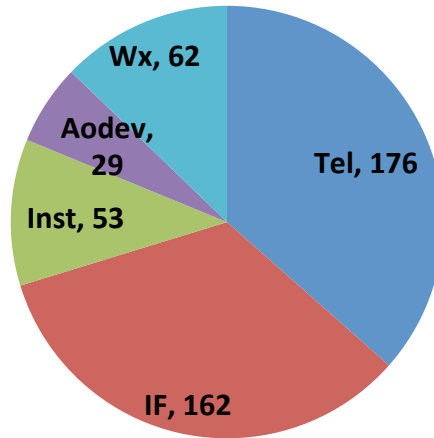


# Engineering Year by Year (Wx = weather)

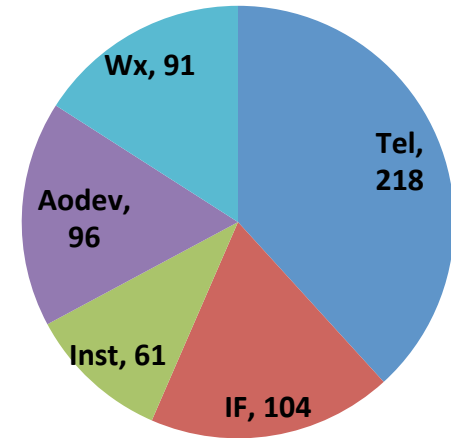
**Total: 2603 Hours**



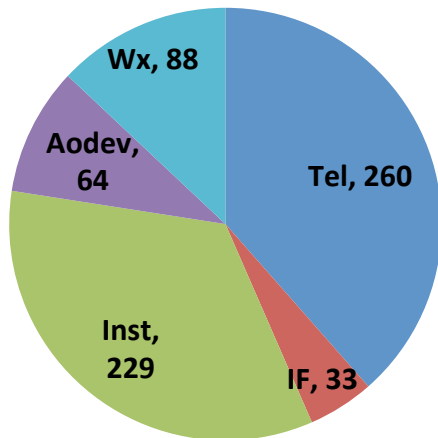
**2010: 481 Hours**



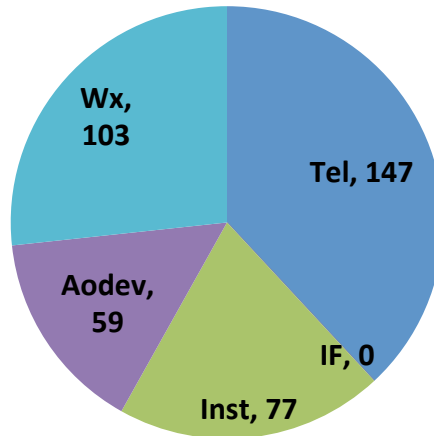
**2011: 569 Hours**



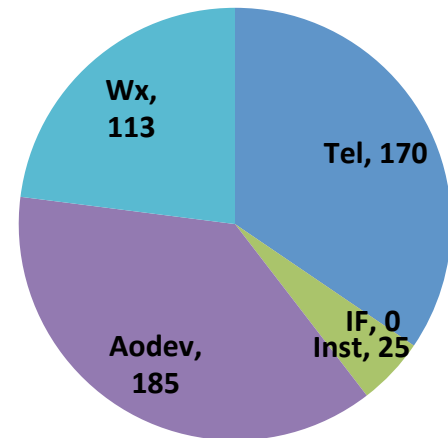
**2012: 674 Hours**



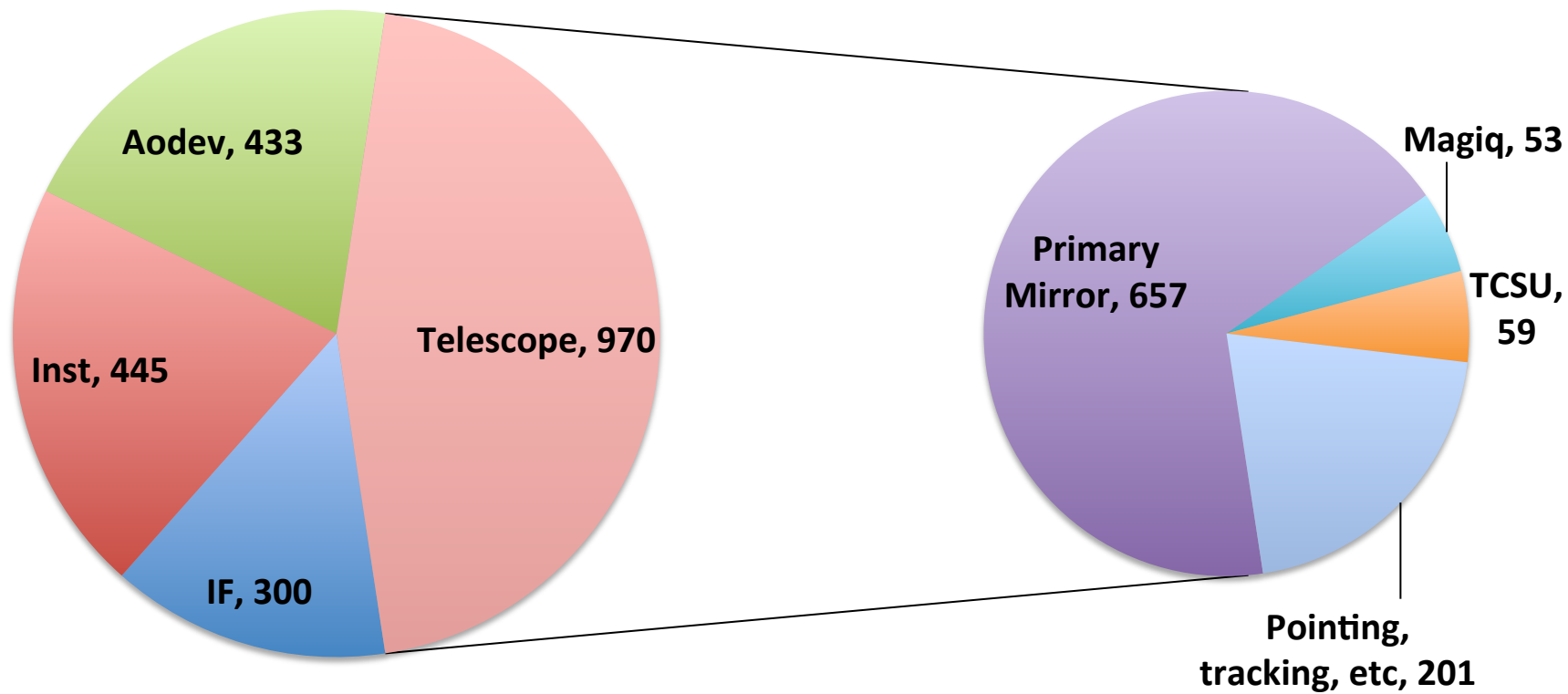
**2013: 385 Hours**



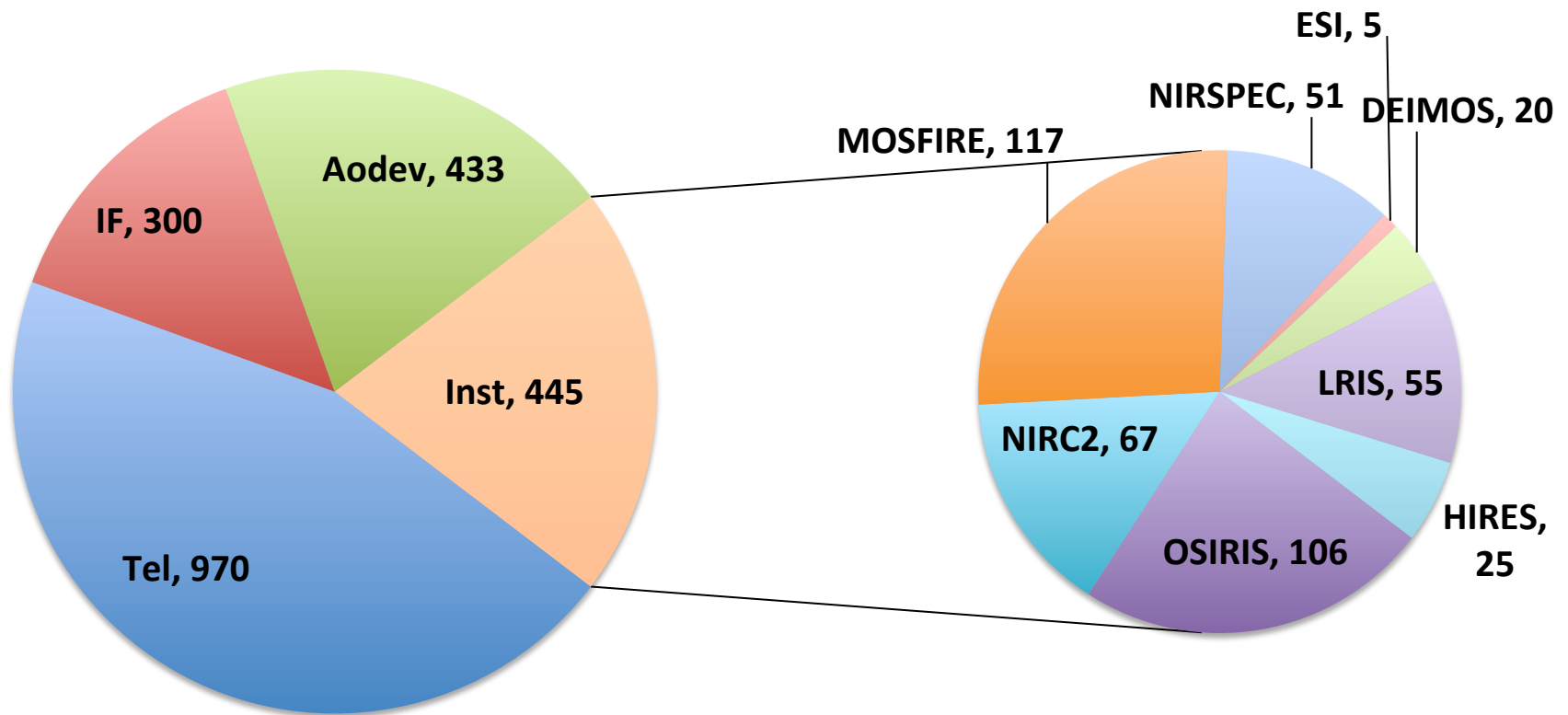
**2014: 493 Hours**



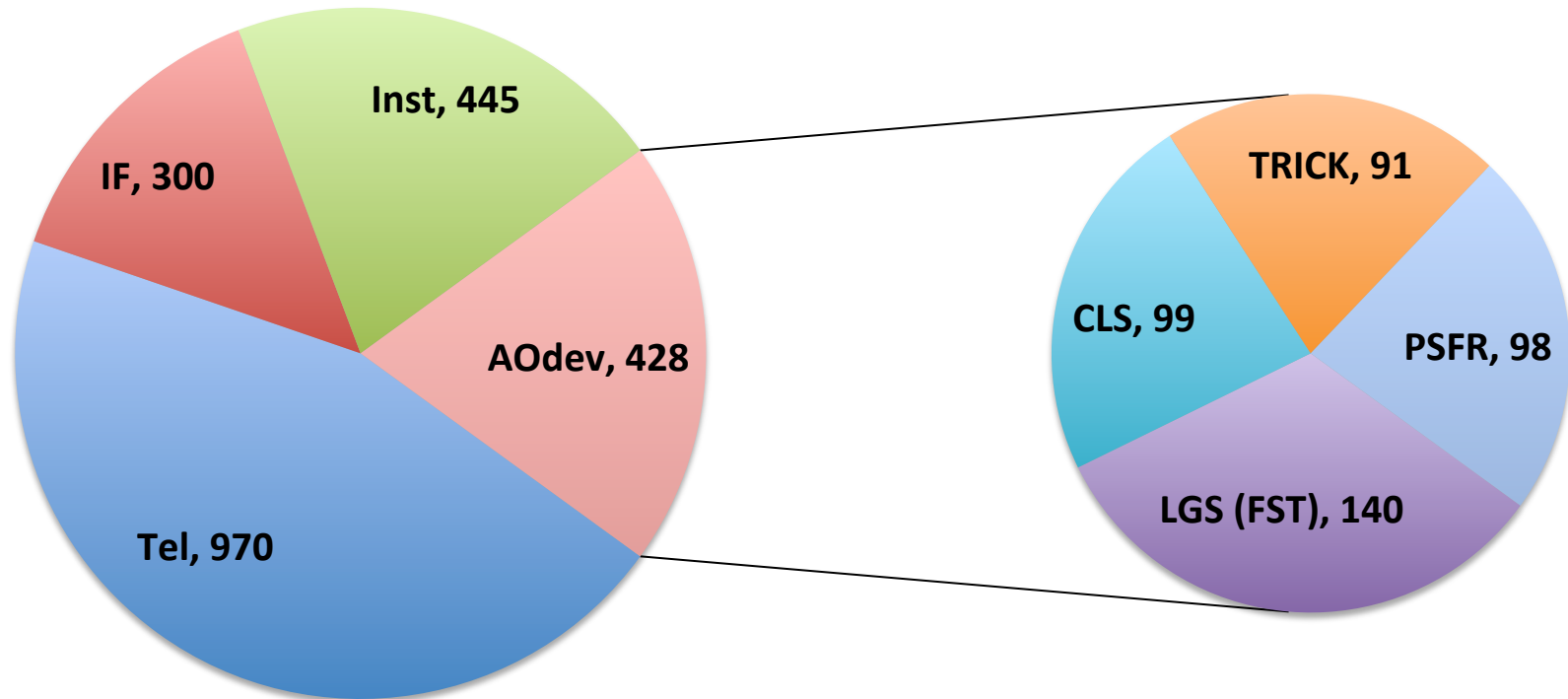
## 5-year Telescope Engineering Breakout (clear weather hours)



## 5-year Instrument Engineering Breakout (clear weather hours)



## 5-year AO Development Breakout (clear weather hours)



# Strategic Planning Process

- Task Forces
  - Directors invited task force members
  - Awaiting announcement of task force leads
  - Chief Scientist is critical to keep process moving
- Subaru/Keck Workshop in Sendai
  - To explore future collaborations
  - Sep. 1-2, 2015
  - Participants have been invited
  - Organizing committee NAOJ, Subaru, WMKO, CIT, UCO

# Time Domain Astronomy

- Implementation of ToO for 2015B between UC & Caltech going forward.
  - 2 observing programs approved by each institution
  - UCO and COO directors working on final implementation details, as refinement to SSC's draft from March 2015
- WMKO staff provided feedback on proposal. Now working on practical details of implementation, training & reporting. This includes mock ToO exercises.