

Keck SSC Meeting Notes

2020 May 22

Remote meeting via Zoom

Enormous gratitude

The SSC warmly thanks the entire WMKO community for an expeditious and safe return to operations in the midst of a global pandemic and statewide shutdown. The fact that the Observatory is back to enabling great science is a testament to the professionalism and exceptional skill and dedication of the entire WMKO `ohana.

Mahalo!!

Announcements and review of actions

- Aaron Barth (UCI) is the new SSC co-chair from UC
- Mariska Kriek (UCB) is a new SSC member
- Jean Brodie is back on the SSC as the Swinburne representative

Observatory Report

- Limited ops resumed after COVID-19 shutdown (longest in history)
 - Observatory-wide approach guided by risk assessment matrices. Multiple levels of activity categorized. Currently at Level 4 (normal operations are Level 1)
 - Incorporates CDC/State/County guidance and regulations
 - Level 4: Most employees working from home. Strong social distancing for summit work/observing support
 - Impacts overall productivity
 - After May 8, observatories allowed to open with social distancing and risk abatement. Returning one telescope at a time to ops.
 - Fixed complement of instruments until staffing allows more.
 - Executing 20A observations when possible
 - Remote observing includes capability to observe from home, but has drawbacks and efficiency hits.
 - K2 operational now. Keck 1 return to science as early as May 25.
 - K2: NIRC2, KCWI
 - K1: HIRES, MOSFIRE, OSIRIS
 - Evaluating ability to bring DEIMOS, LRIS, ESI, NIRSPEC, NIRES up for June science. Some present staffing challenges (e.g. ESI, DEIMOS require multiple people for maneuvers)
 - K1 plan: no instrument re-configs (no immediate availability of LRIS). Currently engineering run.

Observatory Report (continued)

- Longer-term impacts of COVID-19/shutdown
 - Financial impact assessment underway. FY21 may be significantly impacted
 - Travel to/from HQ heavily restricted, not likely to resume in Fall or later
 - Internal/external projects/instrument fabrication likely to slip
 - Science productivity will be impacted, e.g. use of at-home observing. Hard to quantify impacts, but expect long term at-home observing will be retired.

Observatory Report (continued)

- Team Keck TAC 2020B
 - 3 proposals sent to SSC member for additional feedback
 - Very useful feedback
 - Initial impression is that it is a significant improvement in Keck TAC process
 - Anticipate continuing to request small help from SSC in coming semesters
- Major projects
 - Segment Repair
 - Project beginning to resume in Lab
 - Remaining 3 in process
 - Pathfinder segment removed and inspected after 4 years. No notable changes in condition since initial repair
 - K2 tertiary showing some similar bonding cracks
 - KCRM
 - Programmatic construction review Passed. Currently on budget.
 - Integration at WMKO planned for Sept 2021, commissioning 22A, available 22B.
 - COVID-19 impacts TBD, evaluated end of summer.

Observatory Report (continued)

- Major projects (cont'd)
 - KPF
 - Schedule is similar to KCRM, integration in Sept 2021, comm 22A, available 22B.
 - Evaluate COVID-19 impact end of summer.
- 5-Year plan approved by CARA board, but likely to have modifications due to COVID-19
- Keck Visiting Scholar Program
 - Expected to continue, with smaller cohort than last year
 - Contingent on travel restrictions being lifted

Maunakea Status

- Key risks: access and land management changes
- Taking risk-assessment approach
- Collaborating with other MKOs and community advocates
- Access:
 - Protestors have left the area in response to COVID-19
 - No change in status after truce ended. Road remains open.
 - Operational contingency plans in place in case access is blocked again.

Instrument Development Call (Kassis, O'Meara)

- The three defined categories are:
 - **Concept designs and Phase A system designs:** studies for both new instruments and upgrades to existing instruments
 - **Concept designs:** early feasibility studies
 - **Phase A system designs:** preliminary or detailed design studies for instruments that already have feasibility studies, which can be internal or external to WMKO
 - **Mini grants:** to improve current observatory capabilities
 - **Proposal development:** to mature a proposal to be submitted to funding agencies
- Total available funding is \$150K for concept designs, and \$250K for Phase A system designs. Mini grants and Proposal development funds are drawn from the total allocated available funds.
- Examples from recent years are:
 - **Concept:** WFI and FOBOS (two years ago)
 - **Phase A:** FOBOS this year and HISPEC last year
 - **Mini grants:** HAM (H/W installed) and OSIRIS cal status (evolution of the calibration for OSIRIS).

Instrument Development Call

- The notification about the call will be emailed shortly. The call summarizes the different categories (concept studies, Phase A system design, Mini grants and proposal developments) and provides considerations related the Keck Observatory Scientific Strategic Plan.
- Deadline will be June 24th 2020
- There is a specific note of encouragement to projects pursuing a second-generation Low Resolution Imaging Spectrograph (LRIS).
- Page limits and content details are provided for the different categories.
- The selection will be done at the July 2020 SSC meeting.
- Status reports by the selected teams need to be provided in Spring 2021 (brief), and a detailed report two weeks before the Summer 2021 SSC meeting.

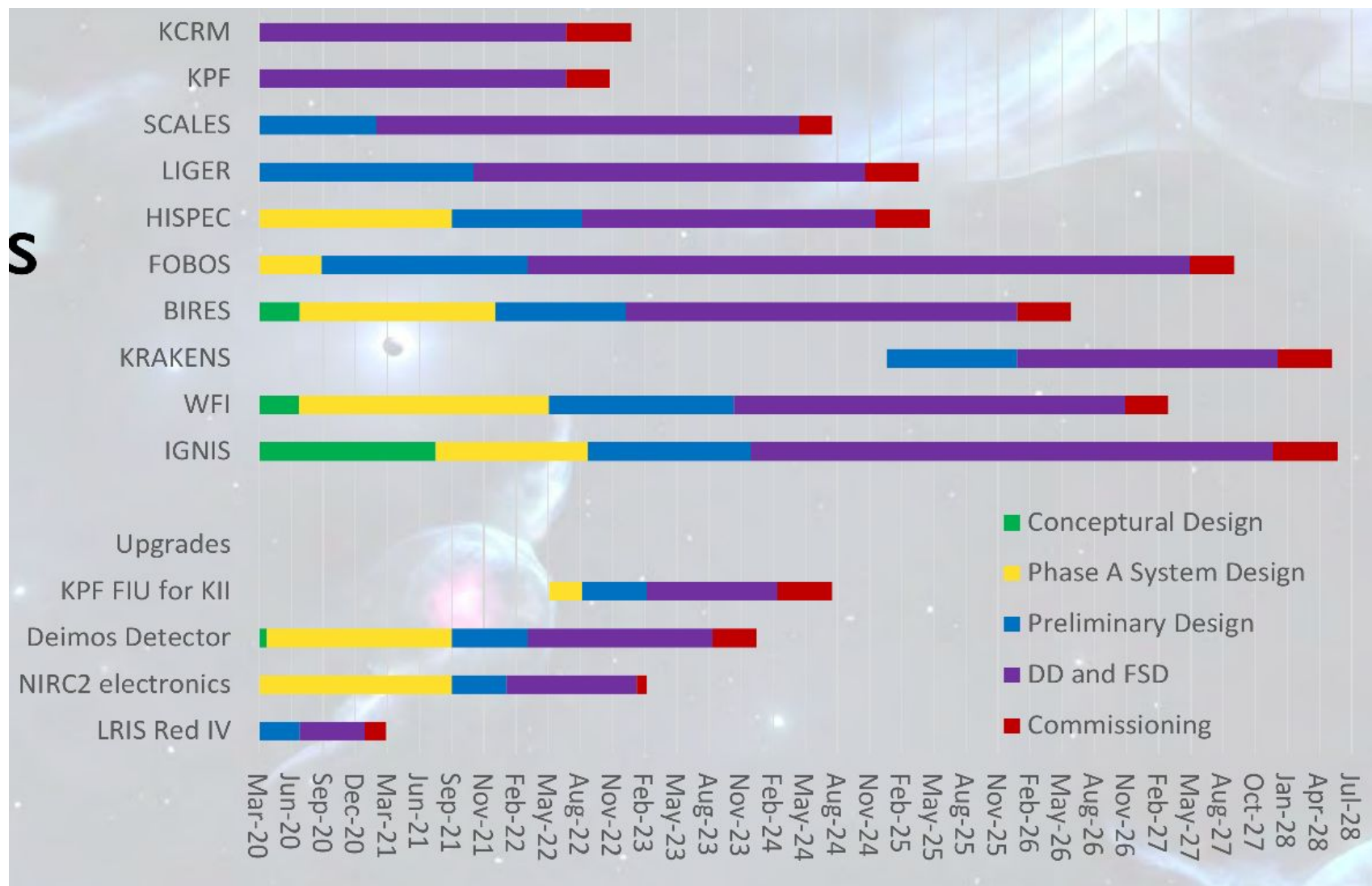
Instrument Development Process

- This process applies to both federal and private (foundation) funds.
- It is imperative for instrument teams to work with WMKO (through Kassis) for any instrument so that WMKO is aware of all the proposals and agencies in play.
- The SSC should be making science-based decisions. It's up to the Board to weigh the (dis)advantages of different funding paths and likelihood of success.

Instrument Development Process

- The development is organized with "phase gates" and "milestones" which establishes the progress of the projects.
- For the selection process, the SSC will be asked to provide feedback on project priority, nights allocations if requested, funding levels and what should remain unfunded.
- If the SSC approves submission of a funding proposal, that approval is not in perpetuity. The SSC must be able to re-evaluate proposals for each funding cycle.
 - Seeking SSC approval every year is a major burden on the teams. Some proposals might be preliminarily approved for submission attempts over multiple years, provided that the scope doesn't change.

Current Development Projects



Logistics for July 7-8 SSC Meeting

- M. Kassis is considering tools to facilitate the discussion of instrument reports and proposals.
 - Document organization: Atlassian?
 - Written analysis from SSC report reviewers in advance?
 - Pre-voting before meeting?
 - Ranked priority list: Google poll?
 - Consider other possible systems to enable Q&A forums with PIs: Allows us to address as many issues as possible before the meeting. However, we should avoid suppression of discussion at the meeting.
 - There may not be enough time (13 days) between proposal submission and the meeting to use this forum to its full capability, like back-and-forth discussion with the proposing teams in advance of the meeting. But we can at least ask short clarifying questions.