

CATAC Meeting Minutes

Tues Feb 21, 2017. 4pm EST

CATAC Attendees: Gallagher, Abraham, Richer, Lafreniere, Simard, Davidge, Brooks
Regrets: Welch

Open to registered public via Webex

1. TMT instrumentation: first light and beyond (Simard)
 - Luc presented slides attached here. Some highlights include:
 - See Skidmore et al. (2015) for the updated detailed science case, and Wright et al. (2016) SPIE paper on IRIS. These include some nice projections of TMT performance.
 - Call for second generation instruments coming in 2017.
 - Two E-ELT first-light instruments could be online in 2024, assuming technically-paced schedules. The third instrument, METIS, would come in 2025
 - GMT: Note that G-CLEF will be only high-resolution spec capability on an ELT at first light.
 - IRIS recently passed its Preliminary Design Review. Note that TMT is using the same design phase nomenclature as NSF, so this is quite an advanced stage of design.
2. Discussion and questions
 - Sawicki: instruments are designed for MK. What happens on ORM?
 - WFOS is designed to reach 310nm (atmospheric cutoff). 310-340nm would suffer at ORM.
 - ADC for IRIS will have to work harder. Performance will suffer, for an amount TBD.
 - Otherwise there are no significant impacts on the first light suite.
 - Khalack: there is no high-res spectroscopy capability. Could we feed EsPADONS like GRACES?
 - We have not looked at this seriously. Fiber would have to be even longer (~twice as long).
 - The lack of high-res spectroscopy is a noticeable gap. Likely high priority for second generation instruments.
 - Abraham: EELT has a mid-IR instrument METIS as a first light instrument. They are at a comparable altitude to ORM. Why is that a first-light priority for them, while we are not planning one even at MK?

- TMT choice was informed by historical MIR performance on 8m telescopes. This might be short-sighted; science cases for MIR on E-ELT are quite exciting. MIR imaging provides a fundamentally different capability from what we've seen on 8-m telescopes. Allow mapping out the building blocks of life.
- Discussions in TMT community show a lot of interest in MIR. SAC will be discussing new instrument priorities in coming months.
- Note CATAC will be hosting a Webex with Chris Packham on the MICHI instrument on March 28. They are looking for partners.
- Doyon: are the SAC instrument priorities on slide 58 in some kind of order?
 - Parameters are new instrument 2y after first light, and every 2.5 years after that.
 - List is not definitive or in strict order. Just done for planning purposes, and the plan is to be rewritten
- Doyon: how do we start?
 - We absolutely have to be starting now. Even if first light is 2026, 2027. Need to start feasibility studies now. The site delay actually allows us to do things right in terms of preparation for next generation instruments.
 - Model is to inject some cash into teams, and leverage in-kind contributions. 3-4 feasibility studies with 1.5 year duration.
- Lafreniere: How set in stone is the first light instrument suite?
 - Too late to change first-light instruments. But our goal is to minimize gap between "generations". If done right, we are commissioning one capability after another. Move away from "generations" of instruments.
- Abraham: how do we turn TMT into something Canadians love as much as they love CFHT? This town hall is step 0, but what's next?
 - Instruments are where the astronomers get fully engaged. Get involved in ISDTs. This is where future instrument priorities will be discussed. No travel required. All meetings electronic.
 - TMT treat instrument builders like partners, not vendor-client. Will work to connect you with others in partnership, or support you in funding applications.