

MIF Status Report

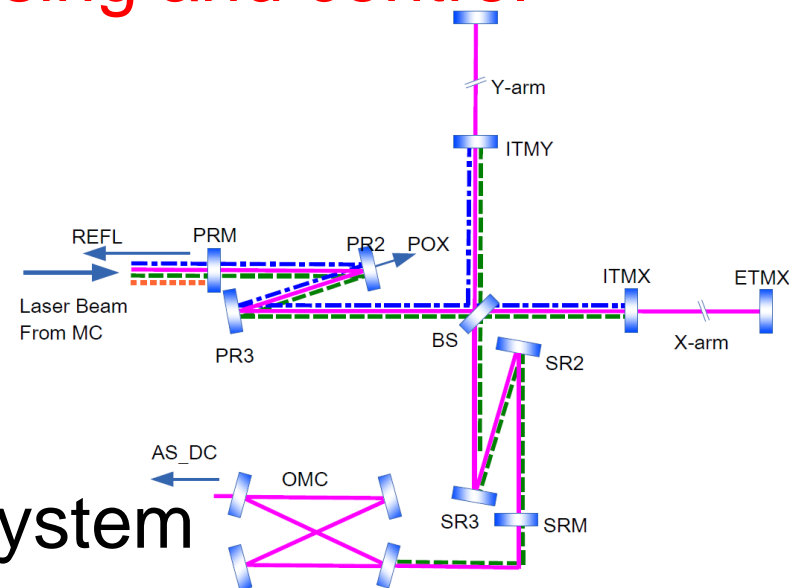
Yuta Michimura

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on behalf of the Main Interferometer subgroup

Tasks for MIF Subgroup

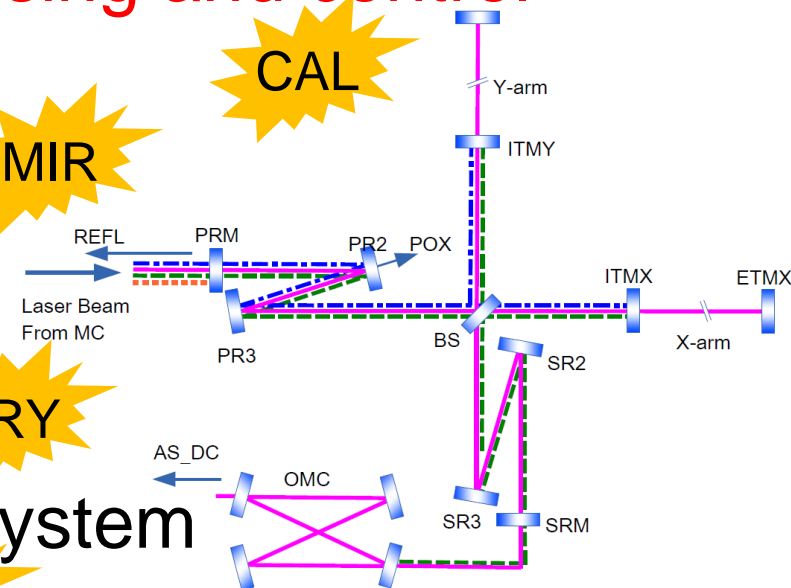
- **Design** the Main Interferometer
- Maintain the optical **layout** of the interferometer
- Design length/alignment **sensing and control** scheme
- Define specs for the **mirrors**
- Derive **noise** requirements
- **Instrumentation** of controls system
- Interferometer **commissioning**



Interfaces with Other Groups

- **Design** the Main Interferometer **VAC** **AOS**
- Maintain the optical **layout** of the interferometer
- Design length/alignment **sensing and control** scheme **DGS** **CAL**
- Define specs for the **mirrors** **MIR**
- Derive **noise** requirements **LAS** **IOO** **VIS** **CRY**
- **Instrumentation** of controls system **AEL**
- Interferometer **commissioning**

Commissioning Committee(?)



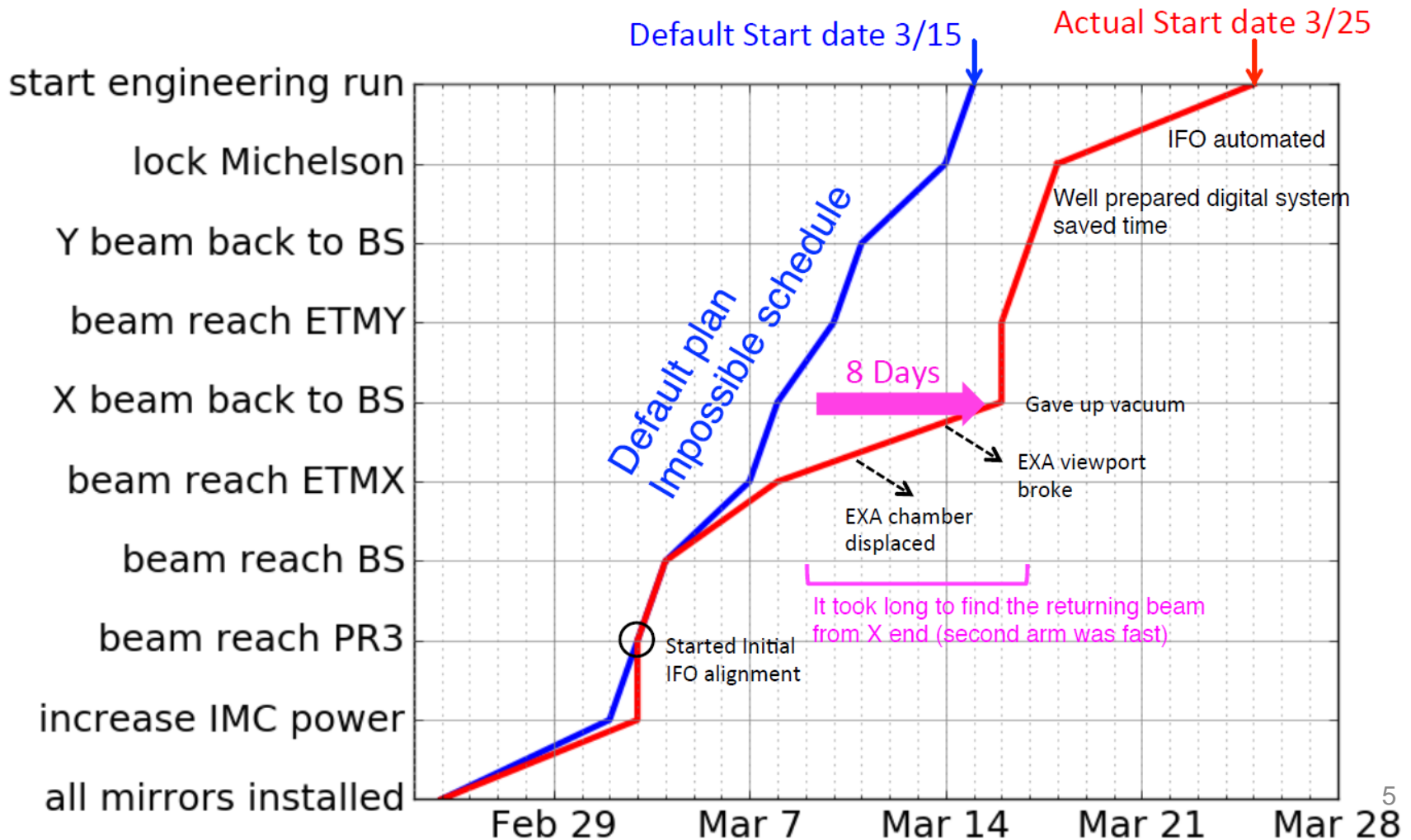
DetChar

iKAGRA Commissioning

- Electronics/cables, detection optics, realtime model for digital control, NoiseBudget model were prepared beforehand
- Initial alignment was appointed as a task for MIF group, and procedure was prepared beforehand
- Remaining tasks after suspensions installation, **from initial alignment to observation**, including **calibrations**, were done by spontaneous “commissioning team”
 - no subgroup-oriented mind anymore

How IFO Integration Went

- Although there was a delay and incidents, integration went miraculously well



Lessons from iKAGRA Preparation

- MIF **members** were not defined
- Only **few meetings** held
 - couldn't keep track of each task
 - lack of communication
- Definition of iKAGRA was different between people
 - **too much rescheduling, descoping**
 - demotivated to be well prepared too much
- **Responsibility** was not defined well
 - especially with IOO
 - also with Commissioning Committee

Updates

- MIF **members** updated on June 2016
- **ISC Bi-Weekly Meeting** started on July 2015
 - not only MIF but ISC
 - MIF + IOO + MIR + AOS + DGS + AEL
 - 14:00-15:00 on every other Monday
 - you are more than welcome to join us!
- Task assignment and tracking not complete yet; only few urgent ones (too much task tracking is also a big task and kills us)
- More communication with subgroups with interfaces

MIF Members

- Yuta Michimura (Chief, UTokyo) Chief and sub-chief swapped on May 2016
- Yoichi Aso (Sub-chief, NAOJ, VIS) swapped on May 2016
- Osamu Miyakawa (ICRR, AEL/DGS)
- Keiko Kokeyama (ICRR, DGS)
- Eiichi Hirose (ICRR, MIR)
- Tomotada Akutsu (NAOJ, AOS)
- Yutaro Enomoto (ICRR)
- Kentaro Komori (UTokyo)
- Naoki Aritomi (UTokyo)
- Tomofumi Shimoda (UTokyo)
- Koji Arai (Caltech) – support
- Hiroaki Yamamoto (Caltech) – support

Members updated on
June 2016

(please let me know if
you are willing to be a
member!)




Towards bKAGRA

- Modeling sensing and controls scheme for intermediate phases
 - Phase 1 ASC modeling [Enomoto's talk]
- Initial alignment and commissioning plan for intermediate phases [Michimura]
- Electronics, cables preparation [Michimura]
- Arm Length Stabilization system
 - NoiseBudget modeling [Kambara's talk]
- Output optics table [Michimura]
- OFI and OMC [Somiya's talk]
- FFT simulation for mirrors [Hirose]
- etc

bKAGRA Readiness

Not ready ← → Ready

	Phase 1	Phase 2	Phase 3
Analog Electronics	requested to AEL	some not yet designed	not yet designed
Digital Control	small modification	major modification	major modification
Initial alignment	planning	vague plan	-
Output tables	some designed	no design	upgrade?
ALS	-	modeling	upgrade?
Modeling	almost complete	exists but not fully	exists but not fully
OFI / OMC	-	designing	upgrade?