

MIF Status Report

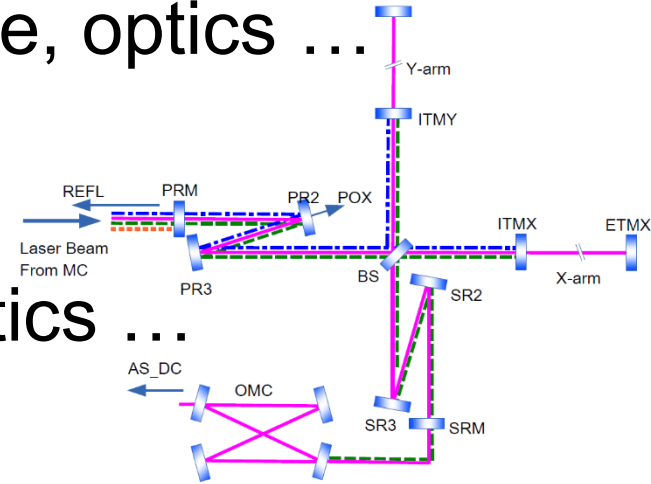
Yuta Michimura

Department of Physics, University of Tokyo

on behalf of the Main Interferometer subgroup

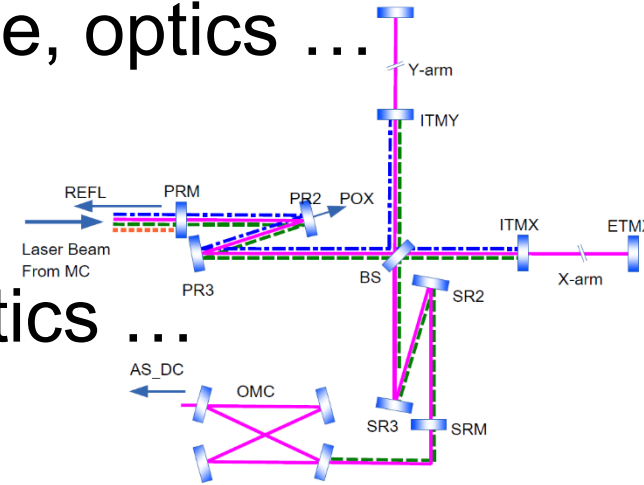
Tasks for MIF Subgroup

- **Design** the Main Interferometer including layout, controls scheme, optics ...
→ DONE
- Derive noise **requirements** for suspensions, electronics, optics ...
→ mostly DONE
- **Instrumentation** of detection optics including optics, photodiodes, cabling, electronics
→ ON GOING
- Interferometer **commissioning** including initial alignment, mode-matching, integration of signals to DAQ system, etc.



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- Interferometer **commissioning**



It seems like EO people think commissioning tasks are for “commissioning team” lead by ON-SITE people

MIF Members FY2016

Name	Affiliation	Effort	Actual Contribution So Far
Yuta Michimura	UTokyo	30	Chief, Management, Electronics
Yoichi Aso	NAOJ	10	Sub-chief, Management
Osamu Miyakawa	ICRR	10	
Keiko Kokeyama	ICRR	10	Commissioning, Cameras
Eiichi Hirose	ICRR	10	Mirror simulation
Kentaro Somiya	Titech	10	OMC, OFI
Tomotada Akutsu	NAOJ	5	AOS related
Kentaro Komori	UTokyo	5	
Naoki Aritomi	UTokyo	5	
Tomofumi Shimoda	UTokyo	5	Magnetic noise, suspension
Yutaro Enomoto	UTokyo	5	Interferometer simulation
Koji Arai	Caltech	-	Inputs from LIGO
Hiroaki Yamamoto	Caltech	-	Inputs from LIGO, Simulation

Updates from F2F Aug 2016

- Concluded that PRMI by March 2018 is not feasible considering the schedule ([JGW-T1605595](#))
- Output optical tables and related tasks are moved from IOO to MIF
- Sideband frequencies for IMC and ALS decided
 - IMC: 13.78 MHz ([JGW-T1605493](#))
 - ALS: 32 MHz and 33 MHz ([JGW-T1605626](#))
- Some modeling had notable progress
 - OMC suspension
 - ALS NoiseBudget
 - Cryopayload actuator design
- More RF electronics were requested to AEL

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	planned	vague plan	-
Output tables	some designed	no design	upgrade?
ALS	-	modeling	upgrade?
Modeling	mostly complete	exists but not fully	exists but not fully
OFI / OMC	-	designing	upgrade?