

MIF Status Report

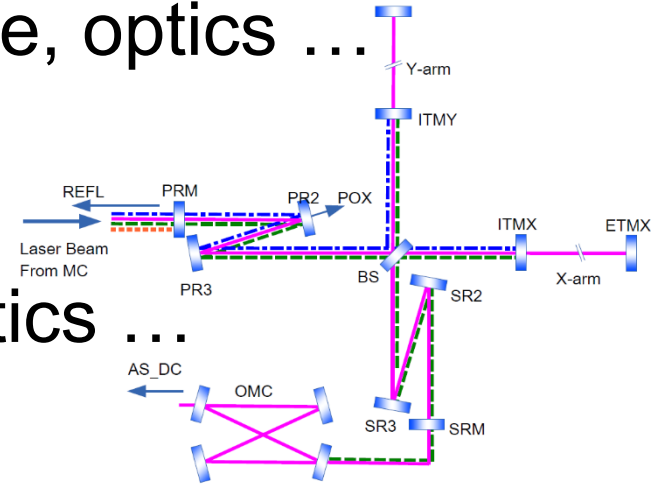
Yuta Michimura

Department of Physics, University of Tokyo

on behalf of the Main Interferometer subgroup

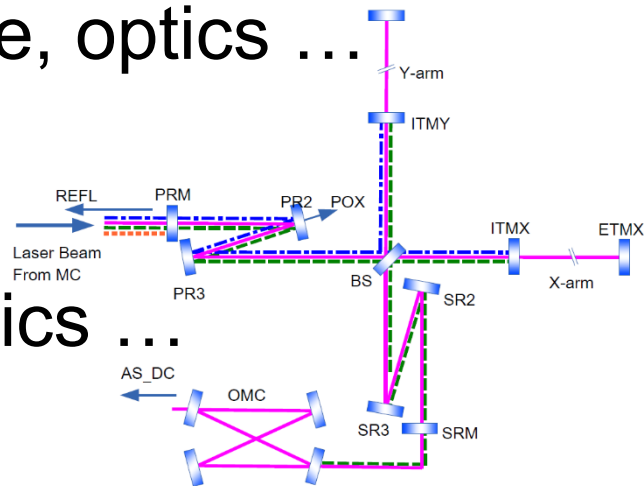
Tasks for MIF Subgroup

- **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
... to the DRQ system, etc.

MIF Members FY2016

ON SITE
OFF SITE

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	ICRR	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?