

# Status report for in-Vac PD and QPD enclosure and layout design

Yuta Michimura

RESCEU, University of Tokyo

with Huali Chen, Ryan Yang, Ray-Kuang Lee, Yoichi Aso *et al.*

# Status of Fabrication

- **In-vac RF PD enclosure**

- Drawings [JGW-D2416111](#)  
(based on [LIGO-D1101992](#) but with a resealable lid)
- Ordered April 2025 to Onodenki
- Waiting for 5xSMP connectors (⑮ in the drawing) to arrive from WinConn

(Originally to be shipped on April 2 but delayed multiple times. Last update on July 17 saying they are to be shipped on July 24 but not received yet)

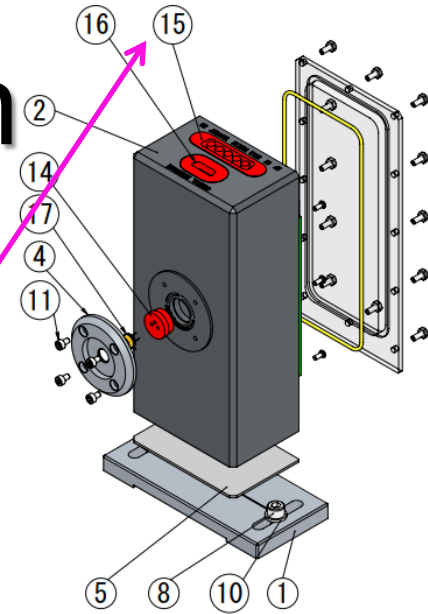
- ~2 month for the fabrication after the receipt of the connectors

- **In-vac RF QPD enclosure**

- No design yet
- Hoping to start this year after the completion of RF PD enclosures

- **In-vac DC PDs and DC QPDs for TMS**

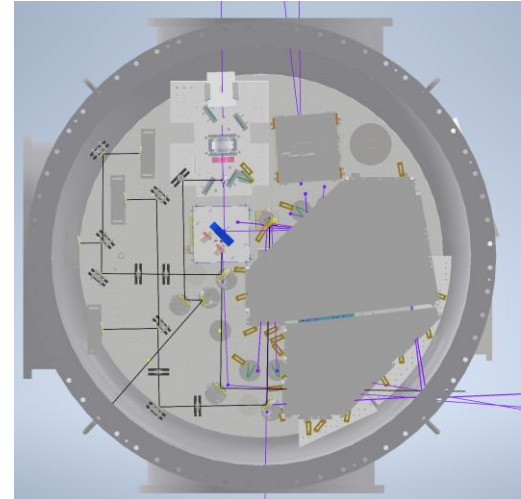
- No design yet



# Status of Layout Design

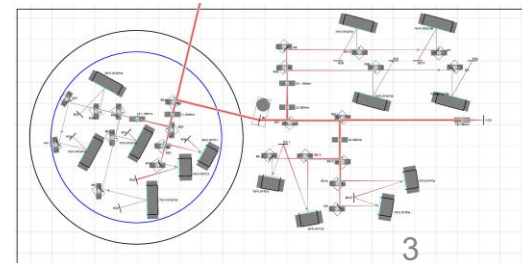
- **AS / OMC**

- Basic 3D layout design completed. 3D CAD: [JGW-D2516705](#)
- Periscope design started  
(design following [LIGO-D1201410](#))
- Layout CAD need to be updated to include fast beam shutter (and new OFI location), beam diverter, periscopes, base plate for RF QPD paths, beam dumps
- Need to align with new OMC vibration isolation table design



- **REFL**

- Basic layout design completed in 2D. [JGW-G2516702](#)
- Need to start designing new vacuum tank  
(Now assuming  $\phi$  800mm tank on REFL table)



- **POP**

- Started layout design based on [JGW-T2416178](#)