

Status report for in-vac RF PDs and RF QPDs

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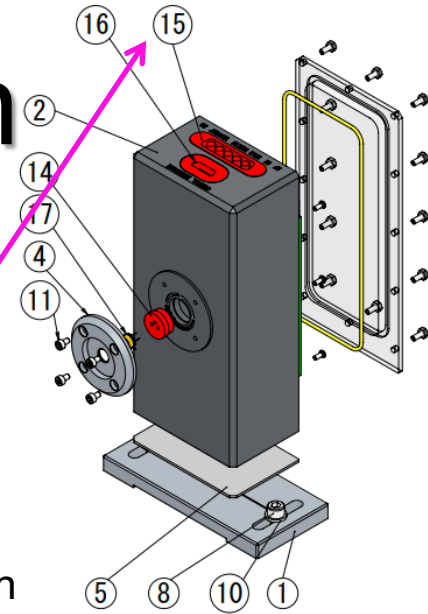
RESCEU, University of Tokyo

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 (Ordered SUS version but Al version
arrived. Re-ordered in October 2025. Should arrive in February 2026)
- ~2 month for the fabrication after the receipt of the connectors



- **In-vac RF QPD enclosure**

- **Requested the design** to Onodenki in November 2025
- Hoping to order in FY2026
- Connectors were already arrived, except for the 5xSMP and DB15

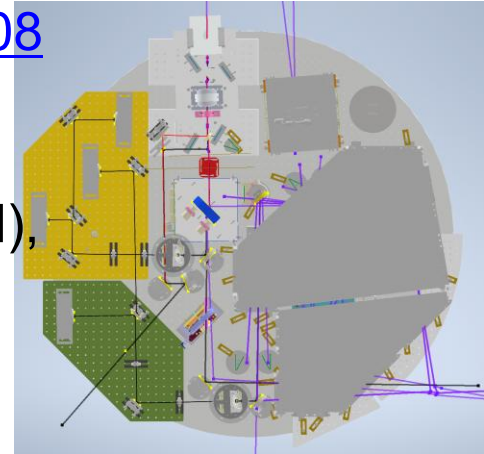
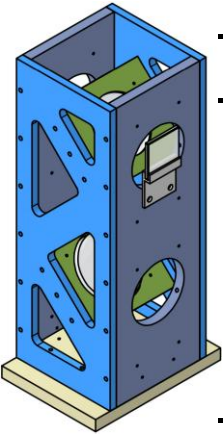
- **In-vac DC PDs and DC QPDs for TMS**

- **No design yet**

Status of Layout Design

• AS / OMC

- Basic 3D layout **design completed**. 3D CAD: [JGW-D2516705](#)
- **Periscope** design, quoting ongoing: [JGW-D2517008](#)
- Layout CAD need to be updated to include updated periscope
updated **baseplates** for RF QPDs (to be designed),
updated **beam diverter** (to be designed),
beam dumps
- Weigh estimated for OMC VIS table design

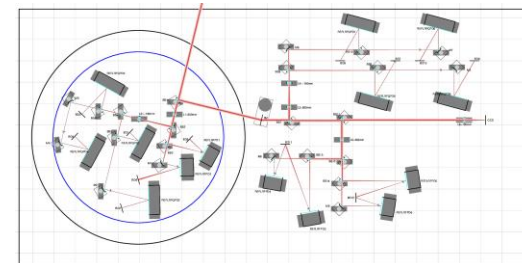


• REFL

- Basic layout design **completed** in 2D. [JGW-G2516702](#)
- Uchiyama-san started to consider new vacuum tank
(Now assuming ϕ 800mm tank on REFL table)

• POP / POPF / Green X

- Started layout design based on [JGW-T2416178](#)
- **Almost complete** except for POP forward path
and Green X path



Status of Cabling Design

- **RF cabling**
 - **Started** the discussions and quotations: [JGW-T2516991](#)
 - First meeting on December 1, 2025
 - Cabling of the in-air part also needs to be considered
- **Dsub 9pin and 15pin cabling**
 - **Not started**