

Photo-electron Laser Update

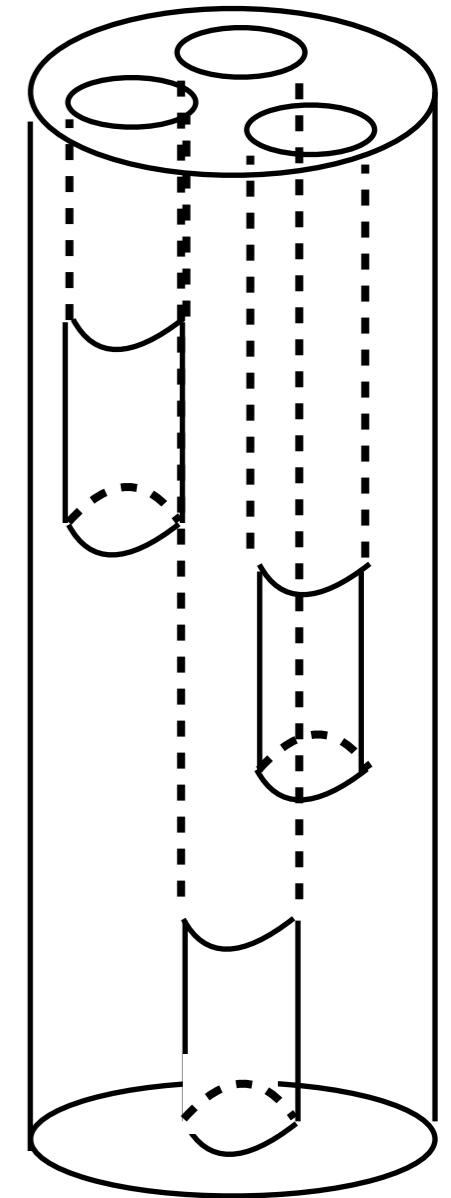
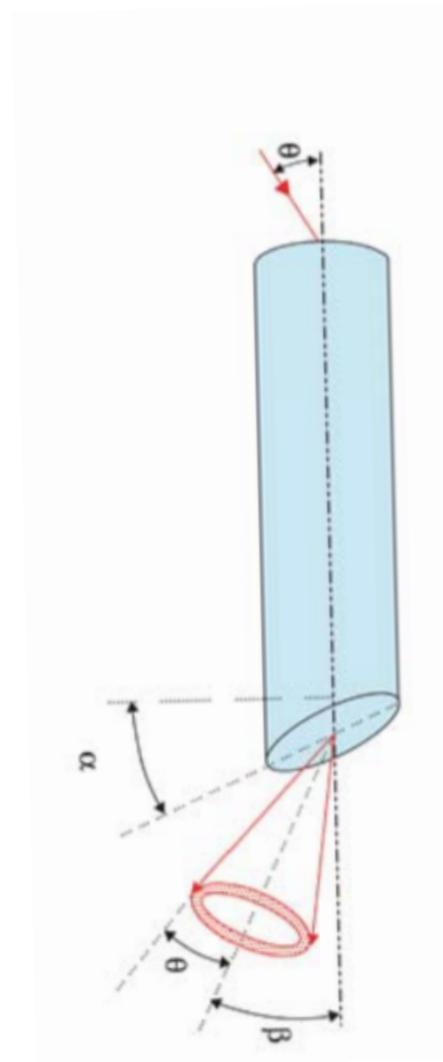
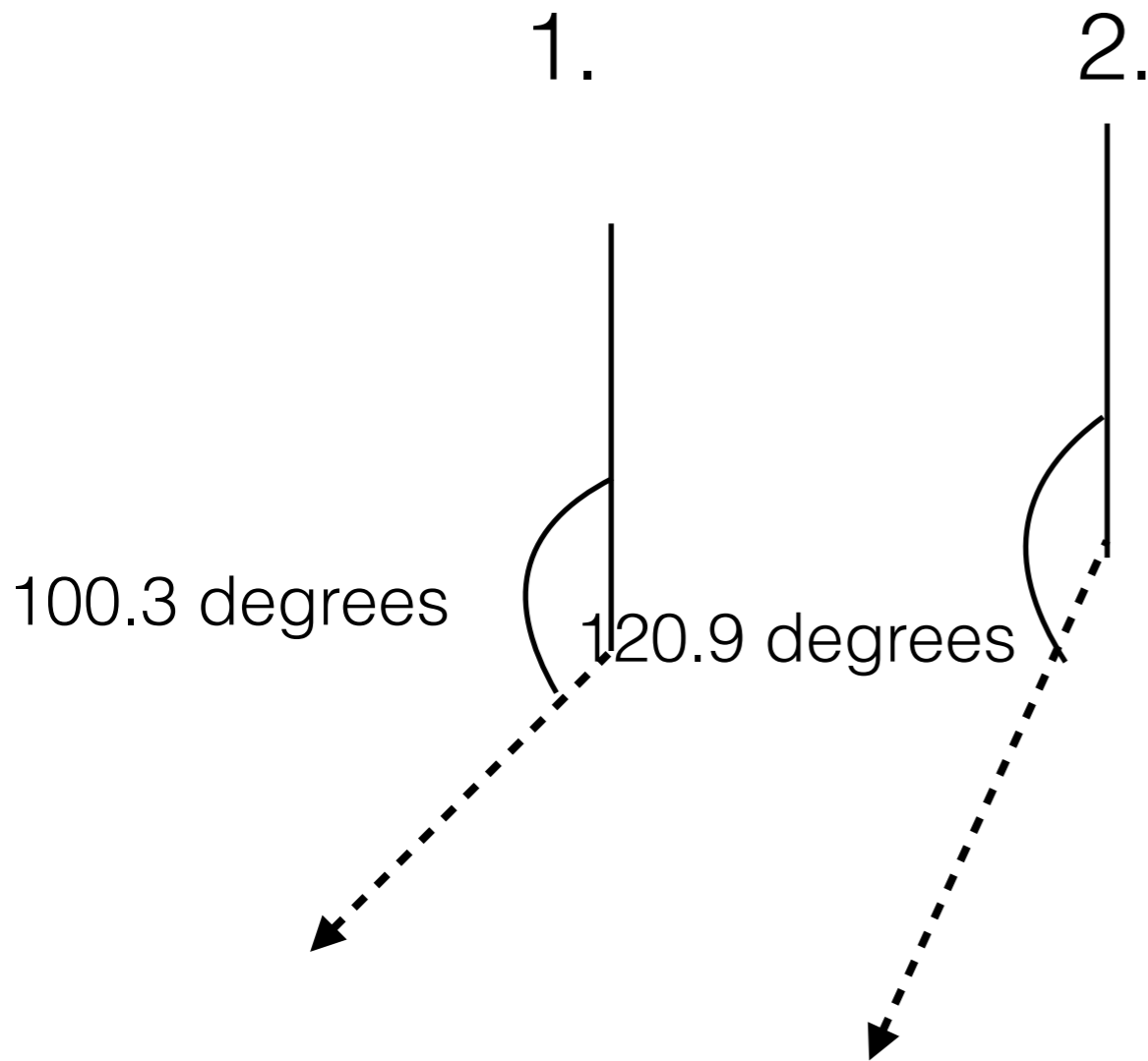
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Laser WG Meeting
University of Hawai'i
21st Nov. 2019

1. Optic fiber

-Ordered two fibers with 2 different angle polish: 100.3 deg and 120.9 deg.

Fiber holder



-manufacture tolerance ± 2 degrees. Need to test the claim on angle of dispersion.

-PTFE jacket and no end cap.

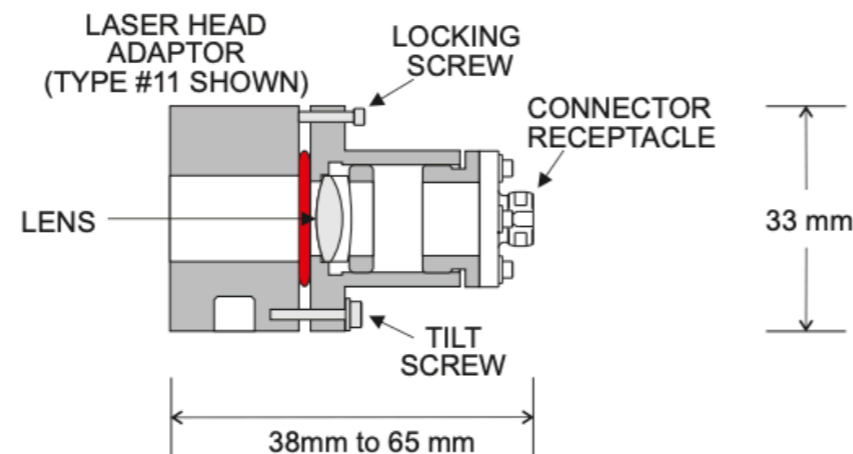
- Rough design of holder. But will need to see fiber before finalizing.

2. Photocathode testing

- Issues with Kurt-Lesker order. Finalized the setup after discussions with technical help asked for quote and then no response
- Explored possible options of working with other groups with necessary equipment/expertise at Hawaii. Did not pan out.
- Recently placed order with Nor-Cal :
- 5 inch vacuum vessel, 4 feedthroughs for HV, temperature and fiber.

3. Laser-Fiber coupling

- Found one Canadian (OZ optics) company to custom make a 266 nm laser-fiber coupler. They have the coupler and will put in the laser grade lens of our choice. Quote is higher than we anticipated (\$850). Looking at others.
- Suggestions?



RECEPTACLE STYLE SOURCE COUPLER USING LENSES WITH >12MM FOCAL LENGTH

4. Interface with APA Engineers:

- In regular contact with Kyle Zeug. Have email exchange and phone meetings as needed.
- Want to converge on a port for PE laser.
- Have verbal/un-official assurance of port space on couple of ports.
- Kyle was asking about getting a dedicated port? For ProtoDUNE the PD calibration, we swapped a service port with ND250 port supplied by us with CF275 flange/feedthroughs for SMA fibers. Similar option for PE-Laser? Any suggestions?