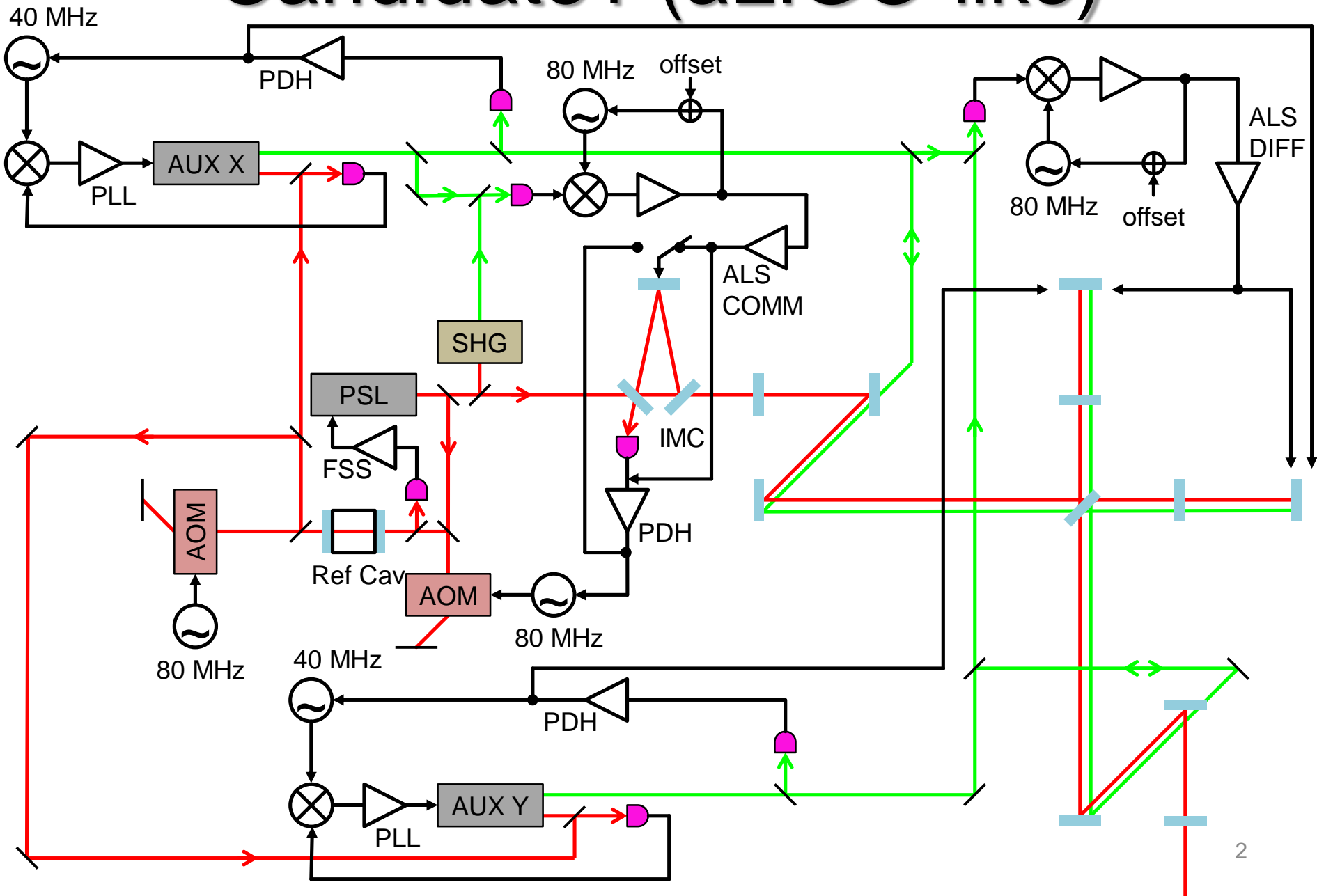


# Arm Length Stabilization Conceptual Configuration

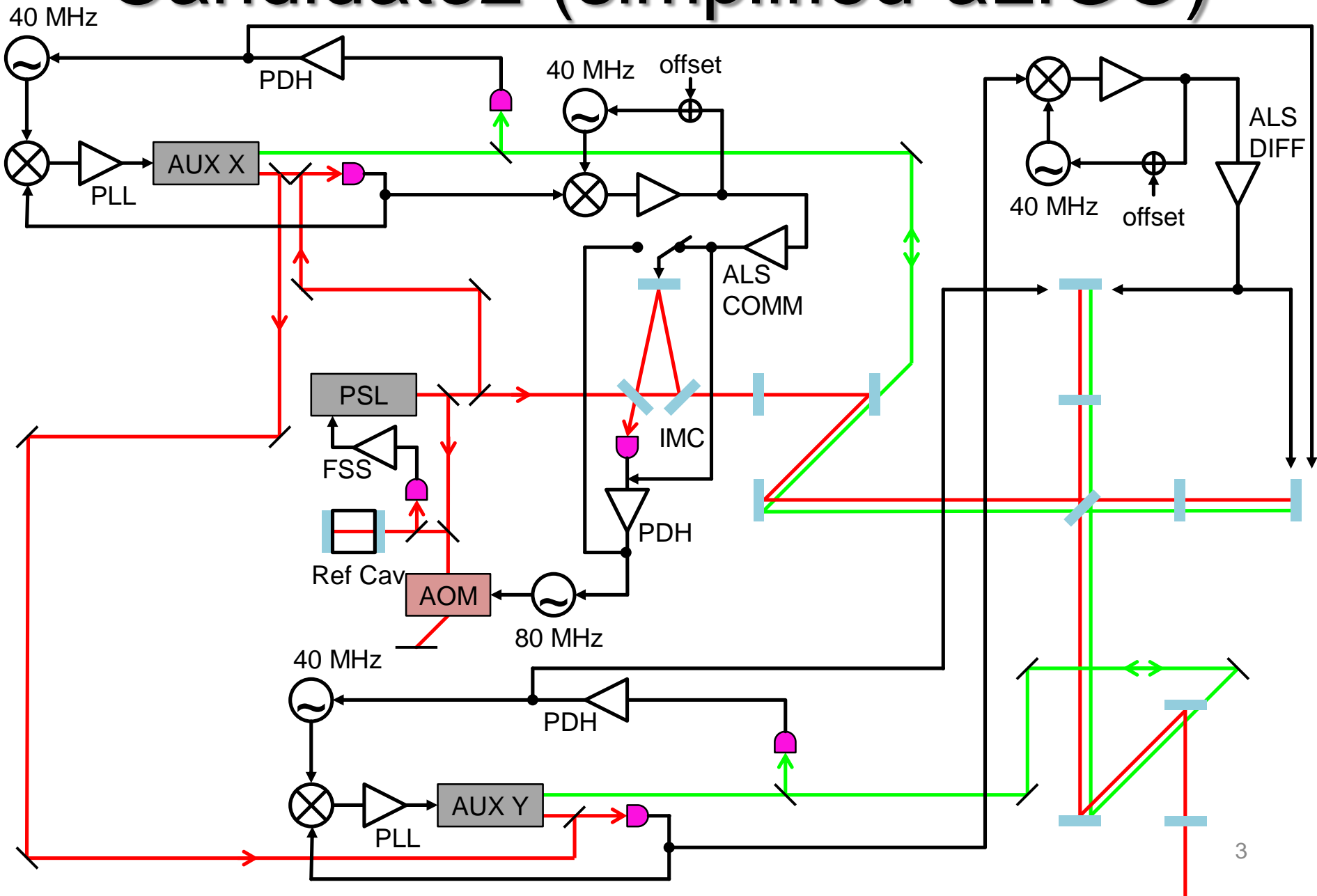
Yuta Michimura

Department of Physics, University of Tokyo

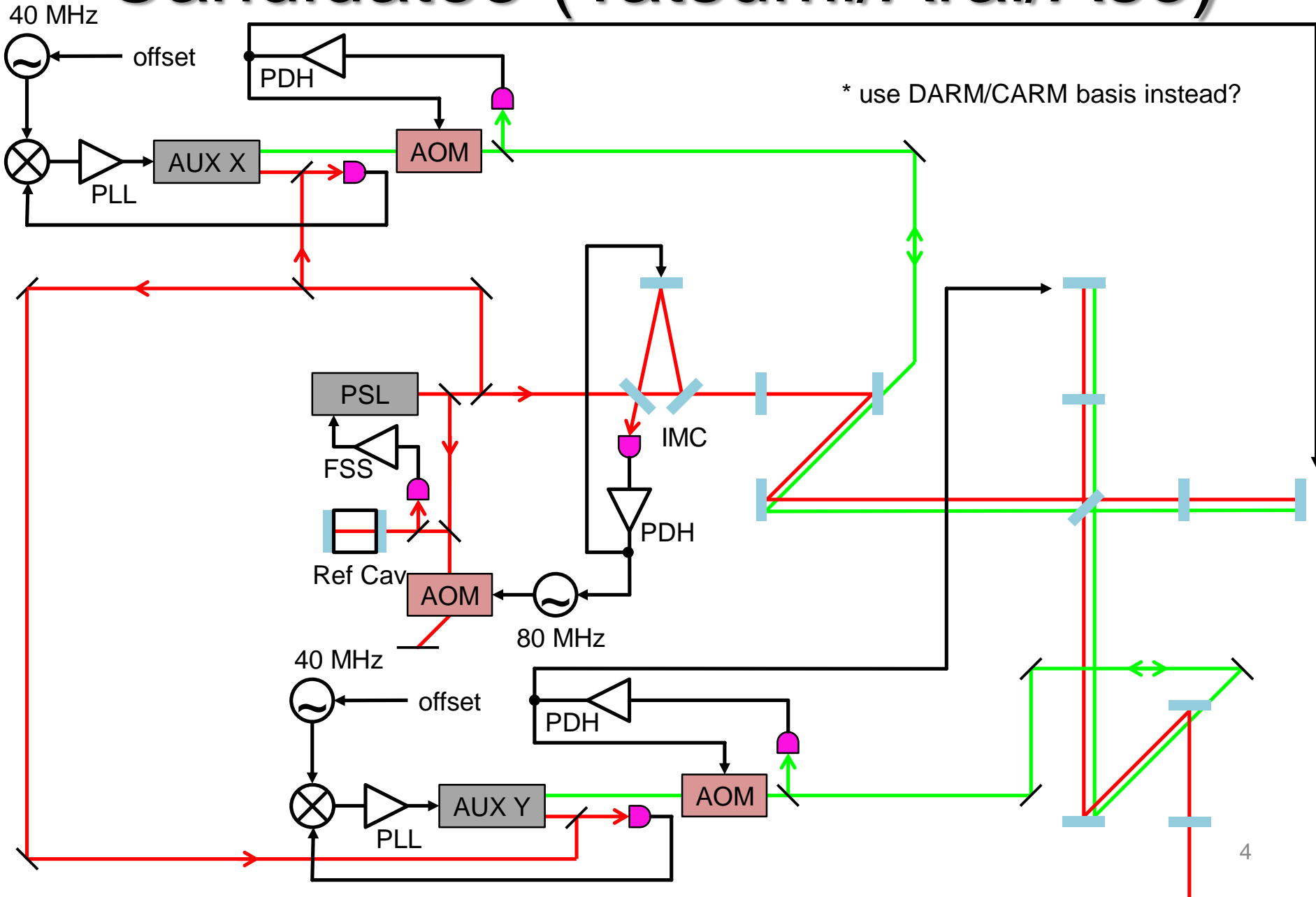
# Candidate1 (aLIGO-like)



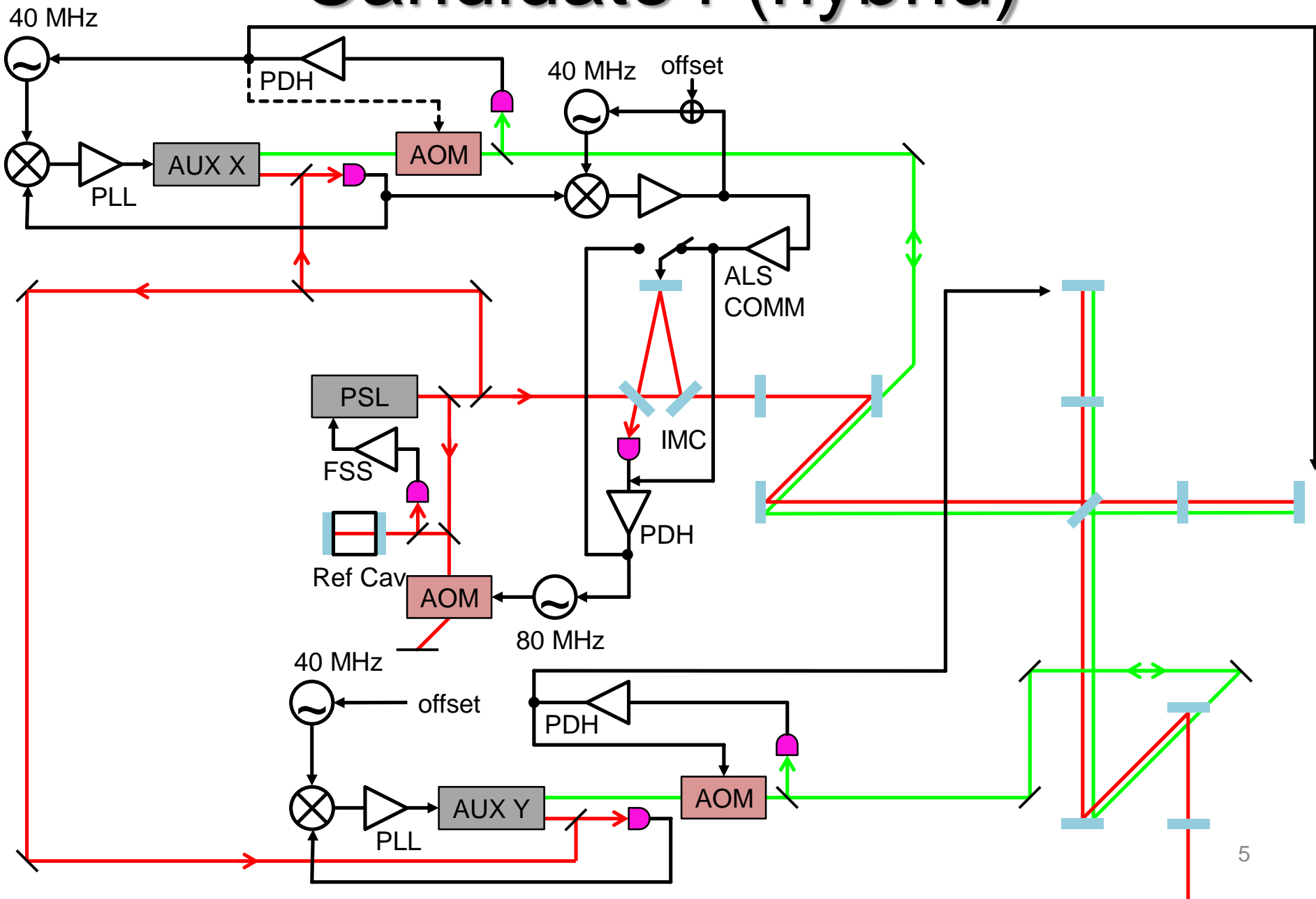
# Candidate2 (simplified-aLIGO)



# Candidate3 (Tatsumi/Arai/Aso)



# Candidate4 (hybrid)



# Considerations

- Where to put PLL setup for PSL vs AUX X/Y
- Where to put green beat setup for ALS COMM
- Where to put green beat setup for ALS DIFF
  
- Plan 1: All at PSL clean booth
  - need two fibers to send AUX green to POS/POP table
  - enough space for optics at PSL table? [Nakano]
  - enough space for electronics at IOO racks? [Michimura]
  - > yes
  
- Plan 2: AUX X at POP, AUX Y at POS
  - need two fibers to send PSL green to POS/POP table  
beat for PLL also with green?
  - need one fiber to send AUX X green to POS
  - enough space for electronics at ISC racks? [Michimura]
  - > yes

# Setup for Table-Top Experiment?

- Conceptual drawing made by Kambara
- to be fixed [Kambara]

# Schedule

- to be fixed [Matsushima]
- very rough schedule
  - 2016.7-10: ALS design
  - 2016.10-2017.9: Table-top experiment at Univ. Toyama
  - 2017.5-2017.6: BRT installation at Kamioka
  - 2017.6: PRs and BS ready (no ETM yet)
  - 2017.7?-??: GreenX installation at Kamioka?
  - 2017.10-2018.3: GreenX/Y installation at Kamioka ?
  - 2018.8: ITM/ETM CRYp installation complete
  - 2018.9-: ALS experiment at Kamioka



# Releated References

- aLIGO configuration  
<https://alog.ligo-wa.caltech.edu/aLOG/index.php?callRep=11083>  
<http://gwdoc.icrr.u-tokyo.ac.jp/cgi-bin/private/DocDB/ShowDocument?docid=1895>
- Study by Tasumi-san *et al.* in 2011-2012  
<https://granite.phys.s.u-tokyo.ac.jp/svn/Private/trunk/LCGTbackup/GreenLock/>  
<http://gwdoc.icrr.u-tokyo.ac.jp/cgi-bin/private/DocDB/ShowDocument?docid=788>  
<http://gwdoc.icrr.u-tokyo.ac.jp/cgi-bin/private/DocDB/ShowDocument?docid=1268>