

Cross-check of "mifsim_gui"

How to cross-check of “mifsim_gui”

I compared the finesse script written by ifo_models with the results detected by mifsim_gui and confirmed whether the results of mifsim_gui were correct.

ifo_models)

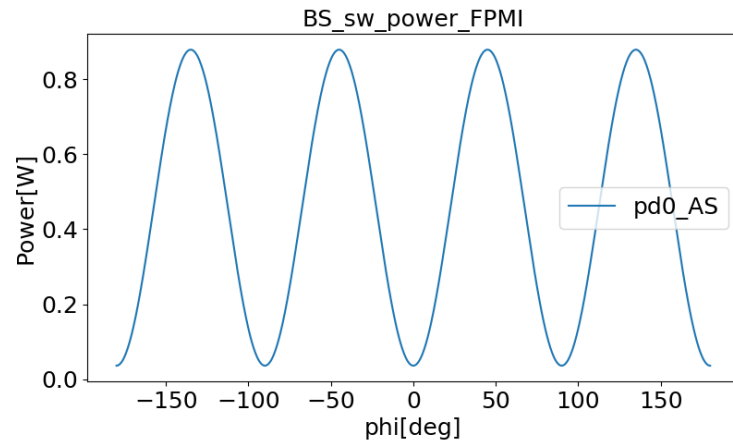
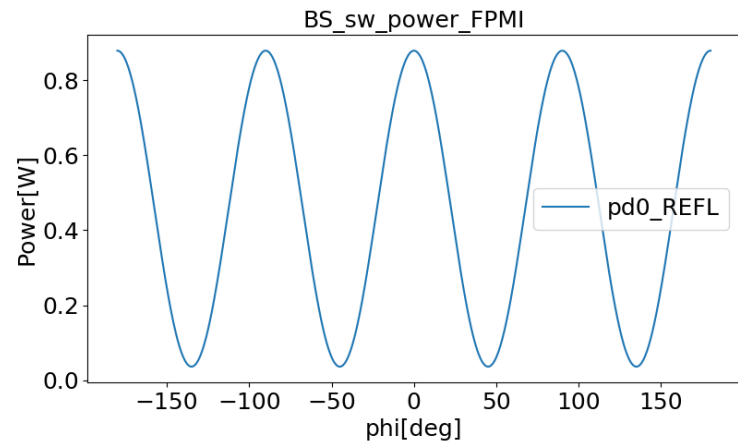
https://github.com/kokeyama/gw-finesse/tree/master/ifo_models

Checked List

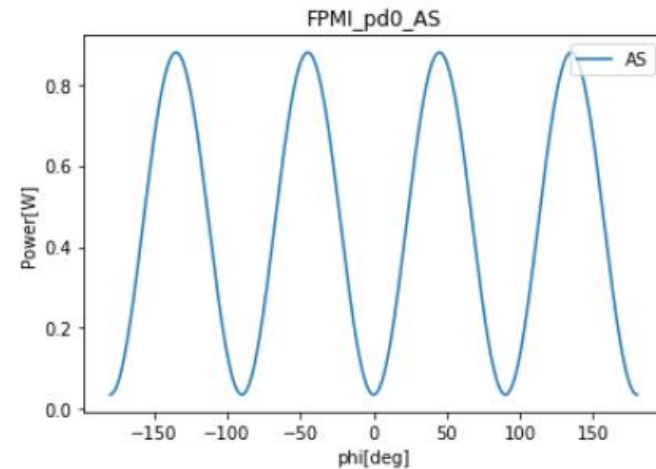
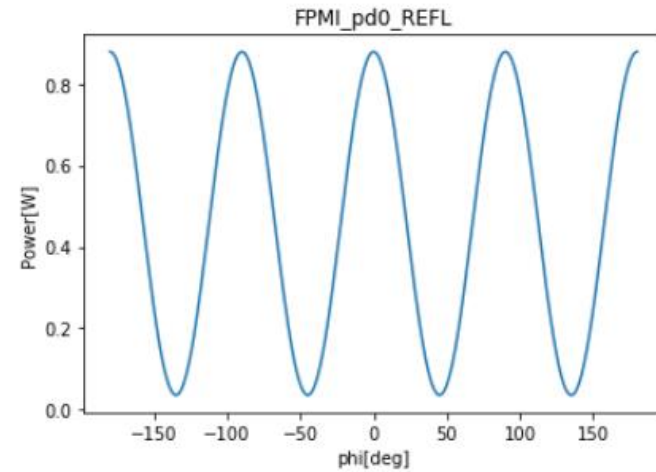
- MI Sweep(Power detector , Demodulated signal)
- FPMI Sweep(Power detector, Demodulated signal)
- PRFPMI Sweep(Power detector, Demodulated signal)
- DRFPMI Sweep(Power detector, Demodulated signal)
Transfer function(Demodulated signal)

Sweep

E.g) Fabry perot Michelson interferometer,
Power detector, BS, REFL and AS



mifsim_gui

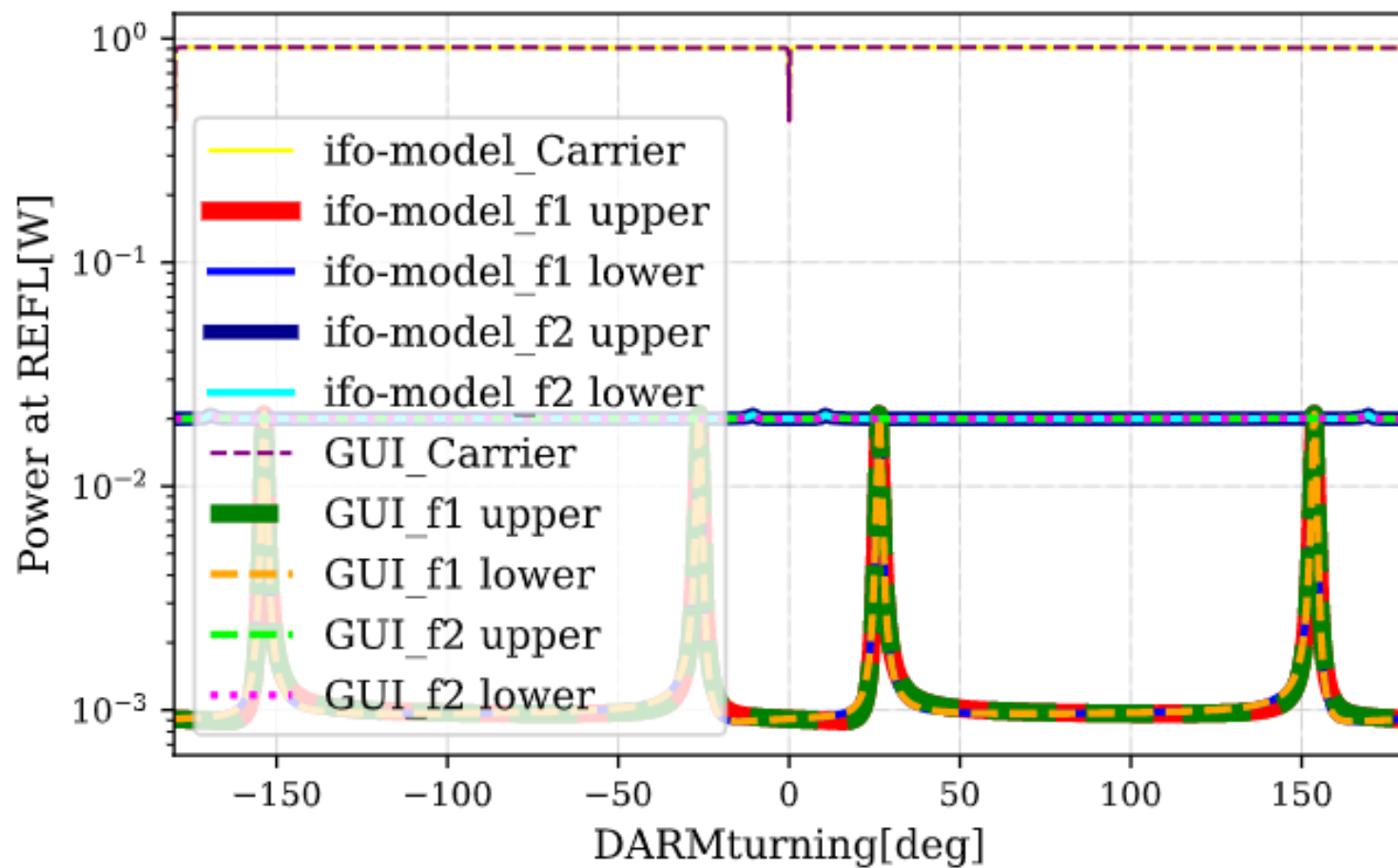


Ifo-models

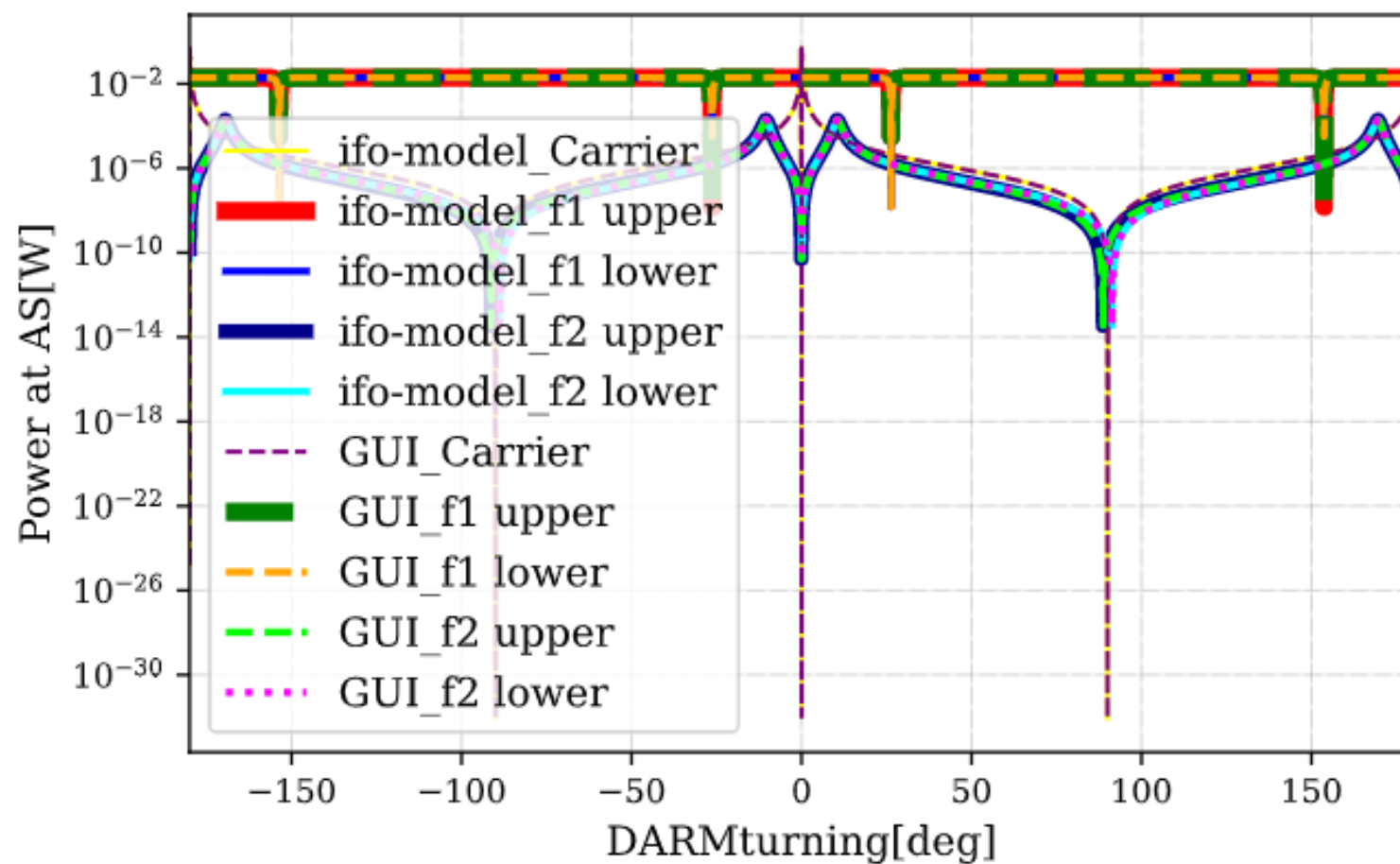
Cross Check: DRFPMI sweep

- DRFPMI
- sweep
- carrier, sideband(f1,f2)upper, lower
- DoF: DARM, CARM, MICH, PRCL, SRCL
- Nod: REFL, AS, POP, POS, nTMSX, nTMSY

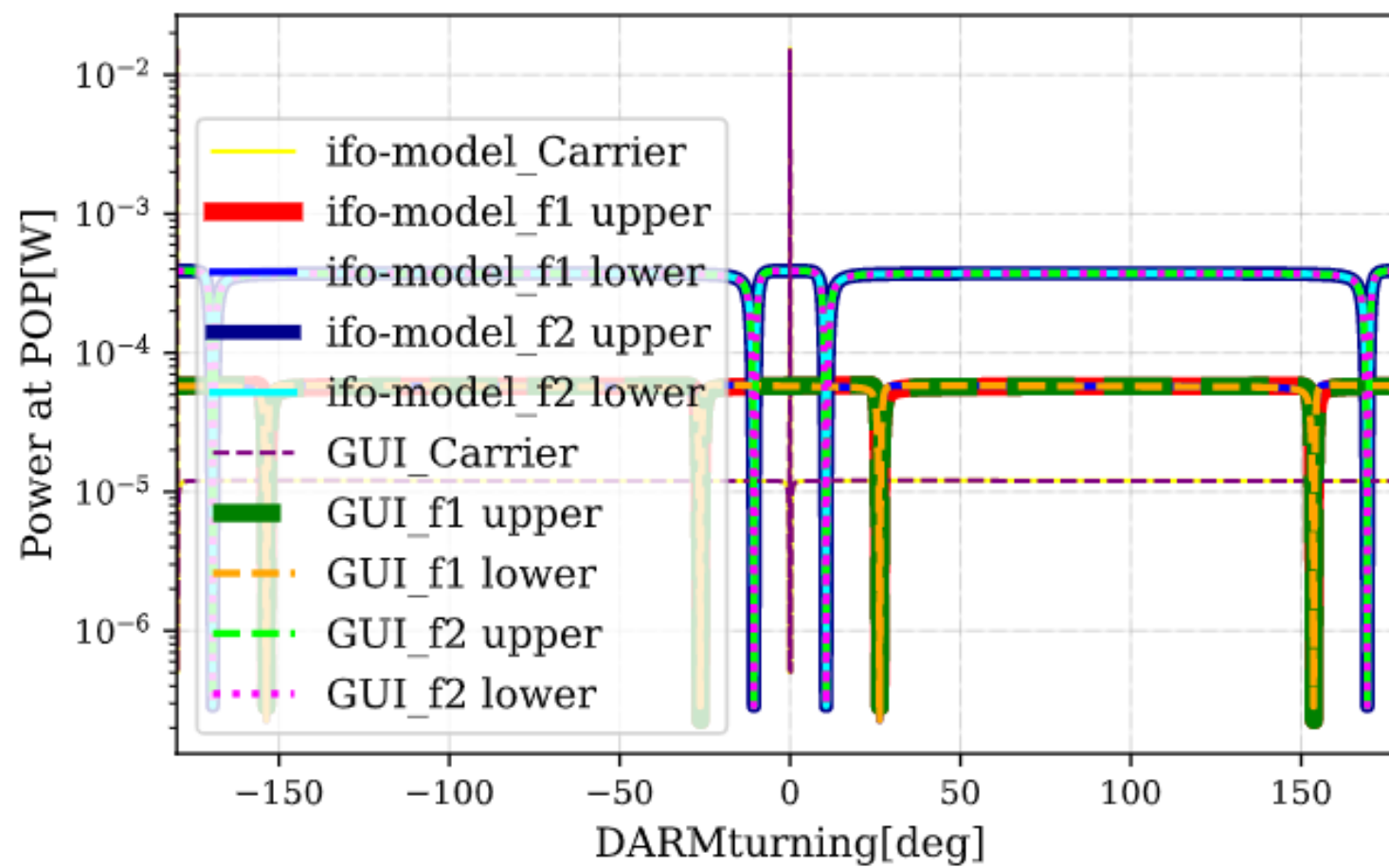
DARM_REFL



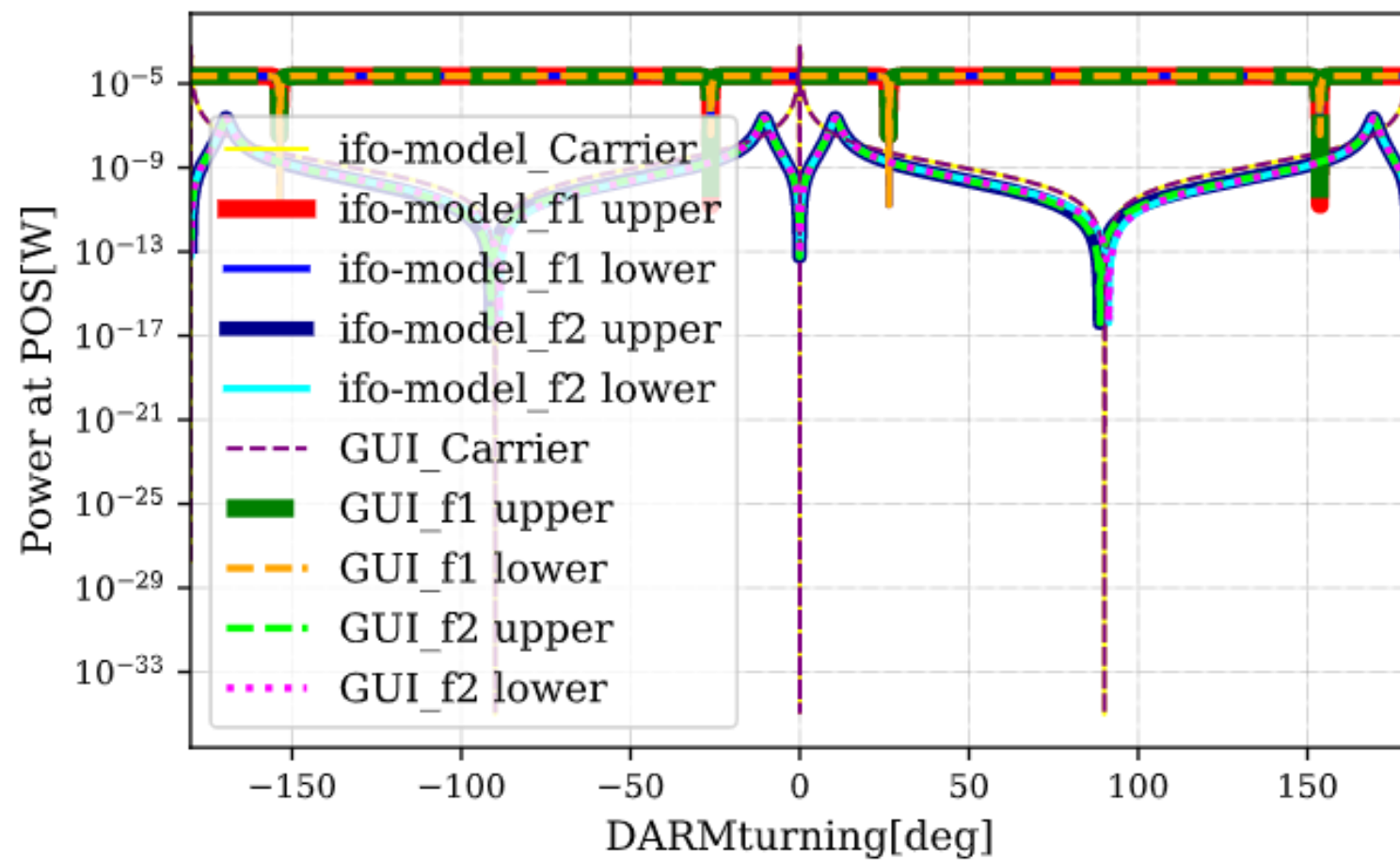
DARM_AS



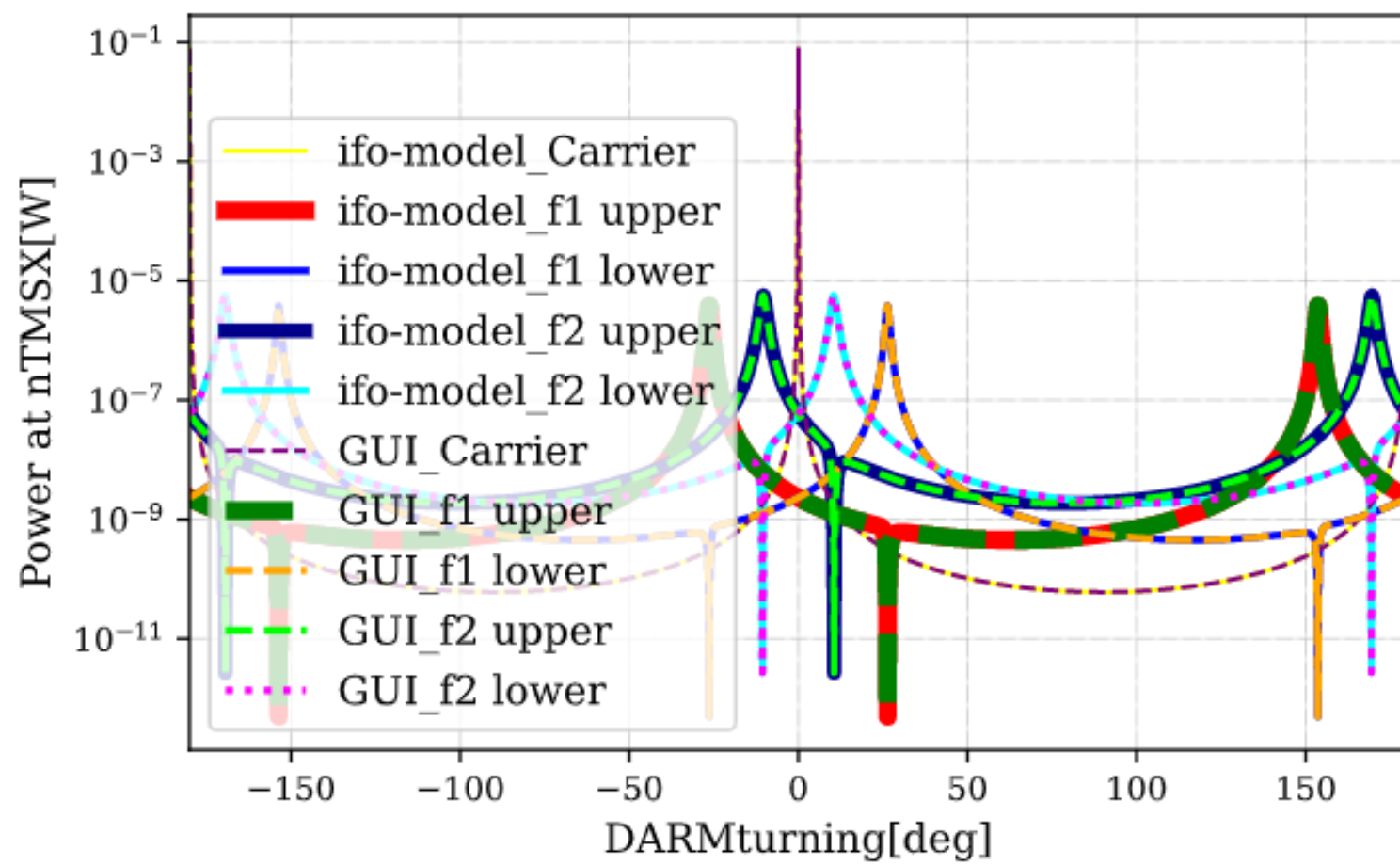
DARM_POP



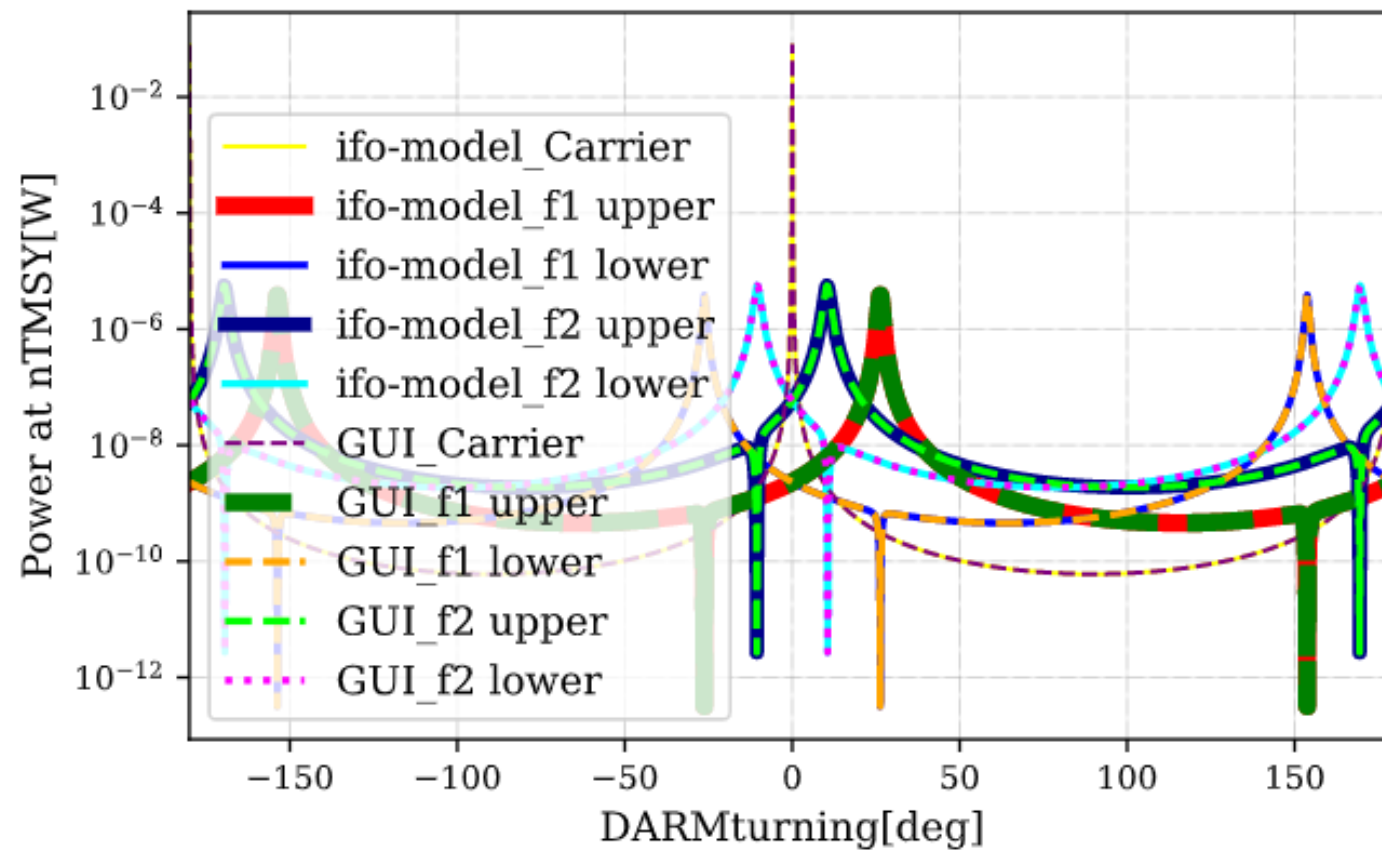
DARM_POS



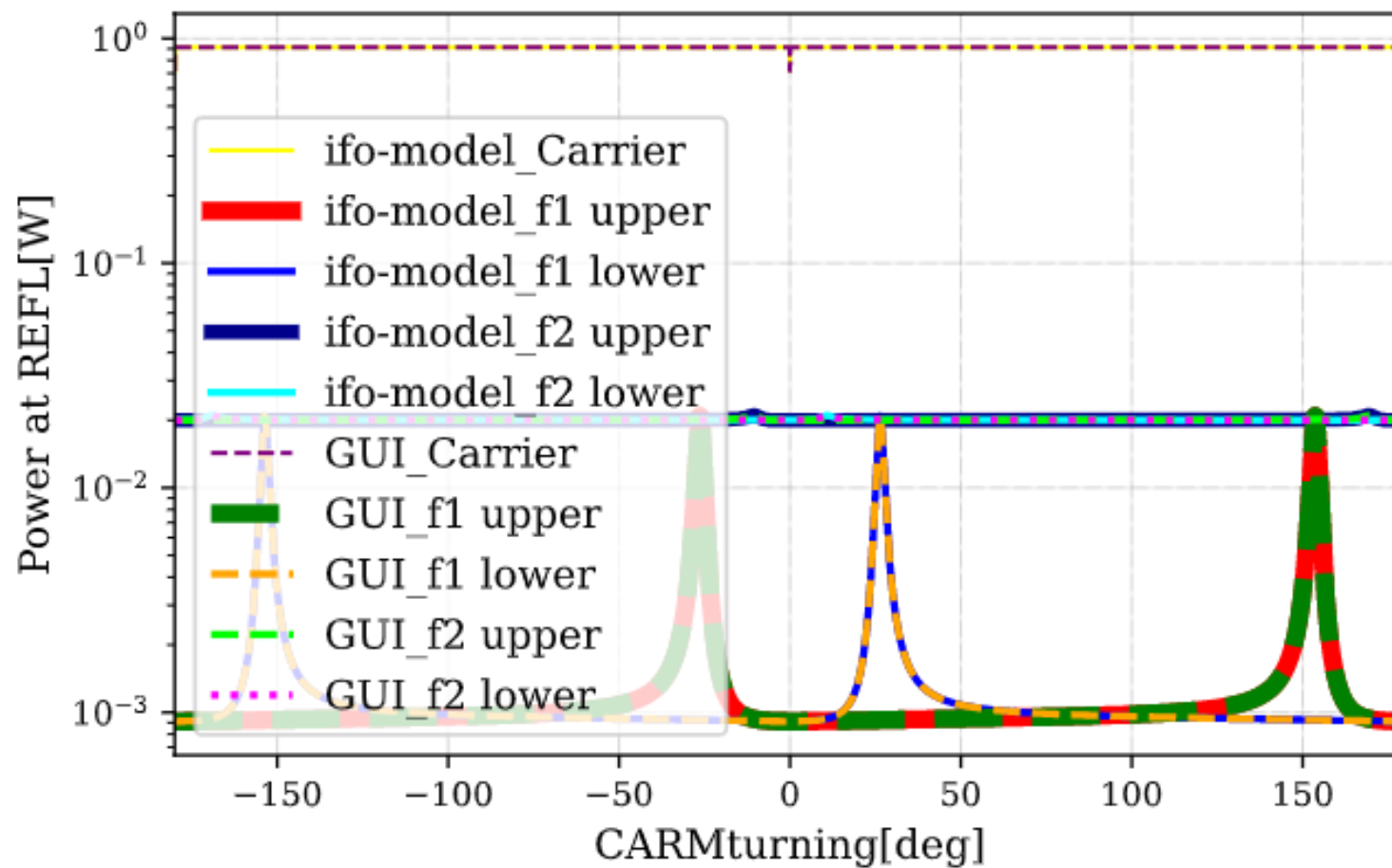
DARM_nTMSX



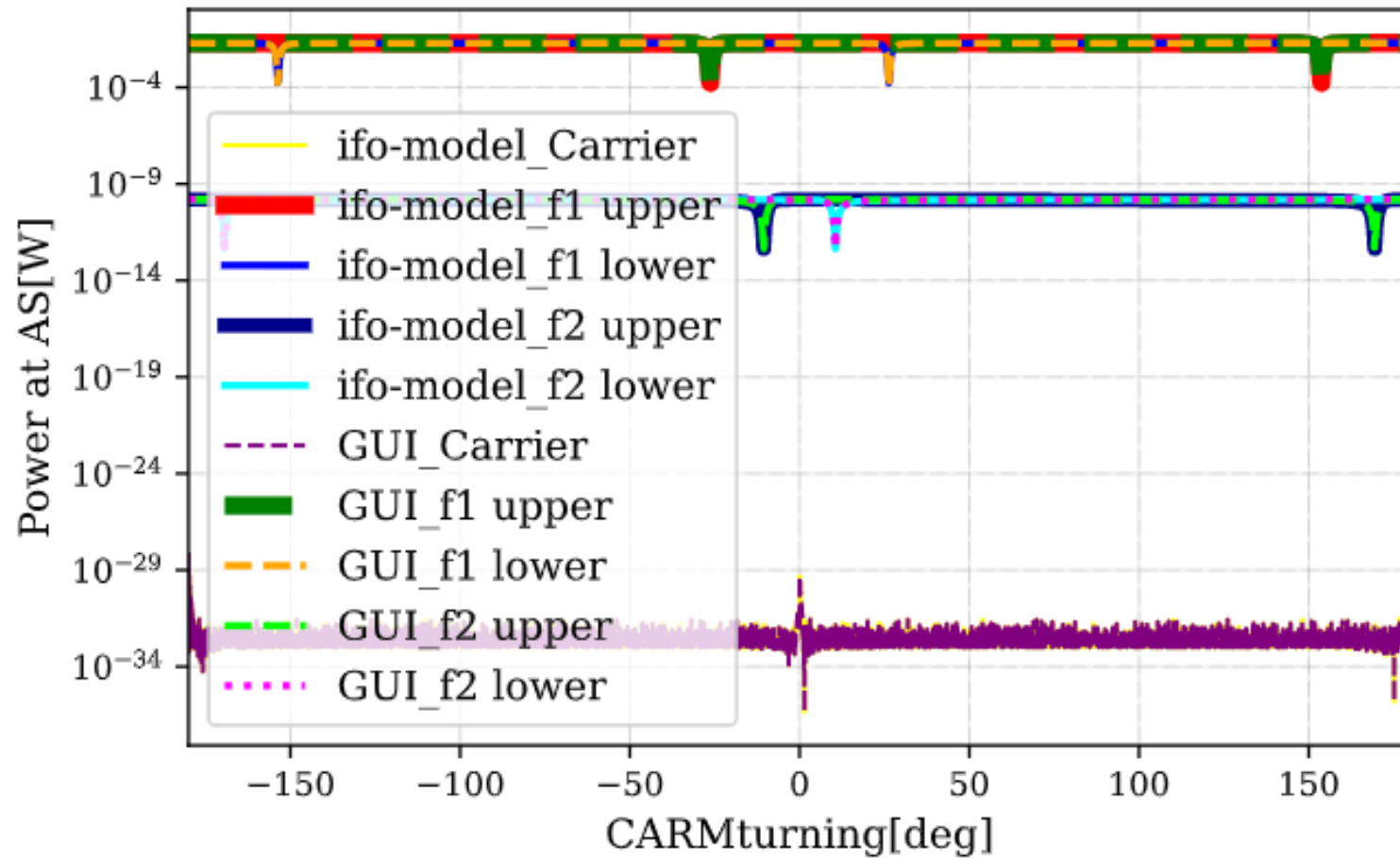
DARM_nTMSY



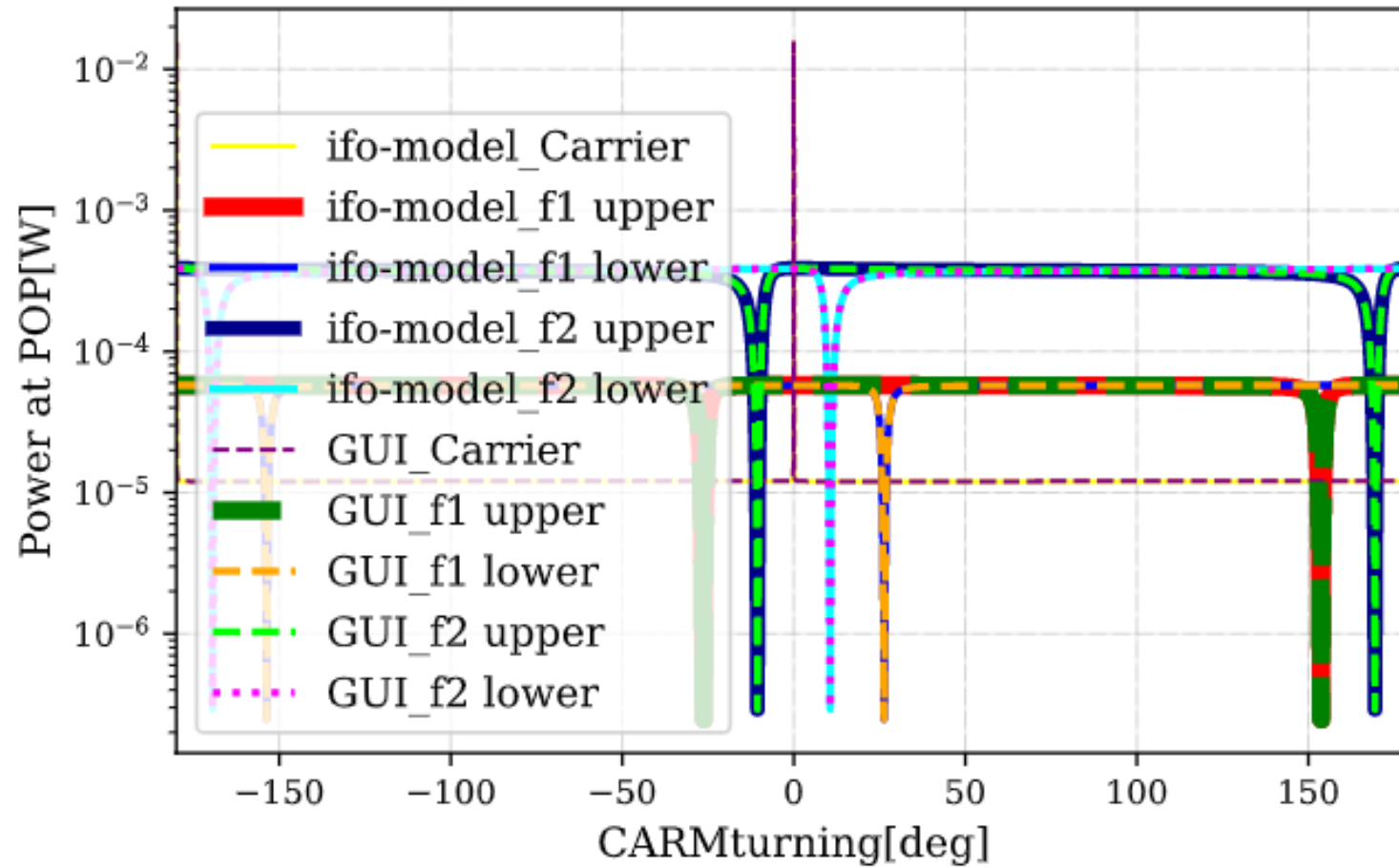
CARM_REFL



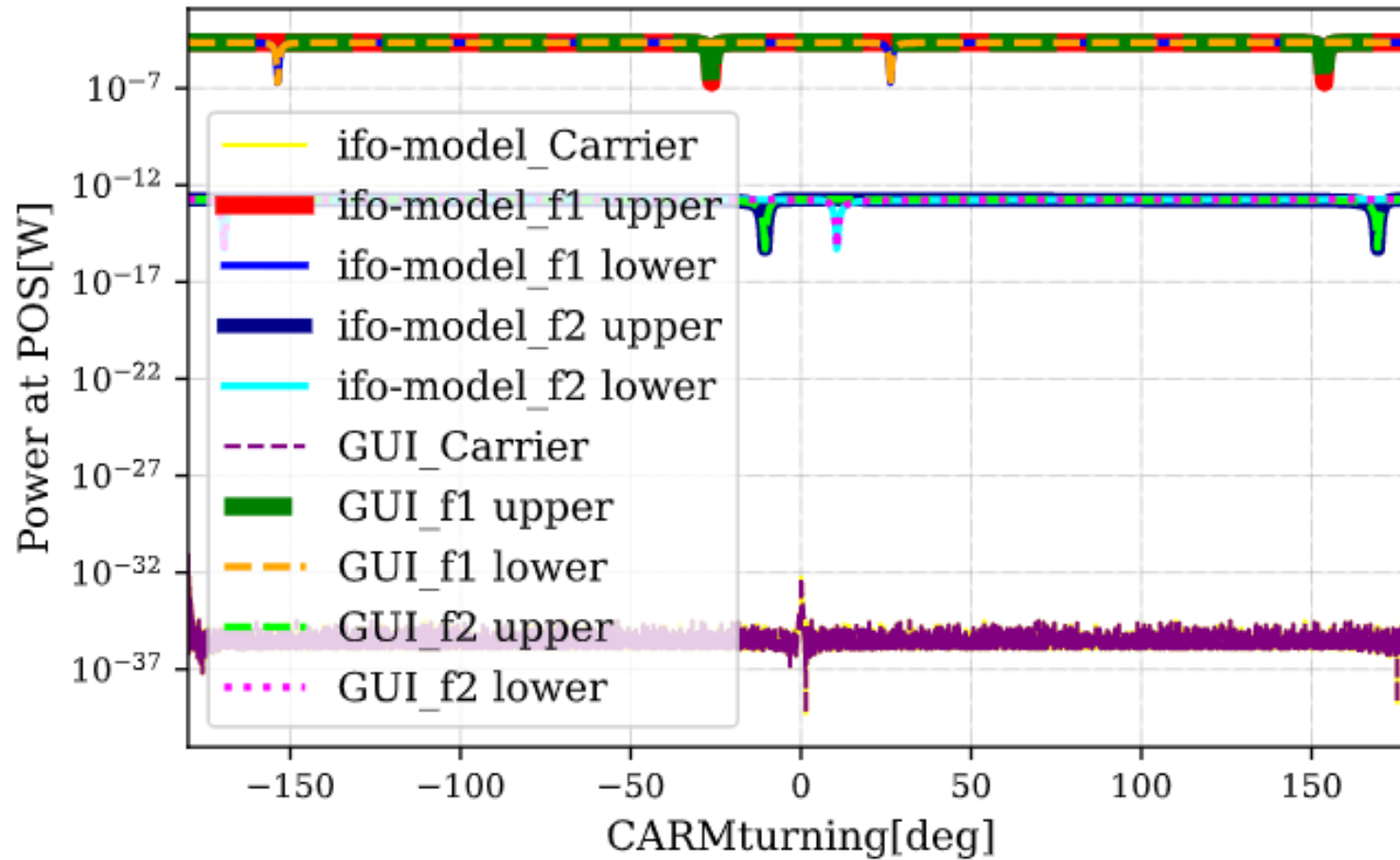
CARM_AS



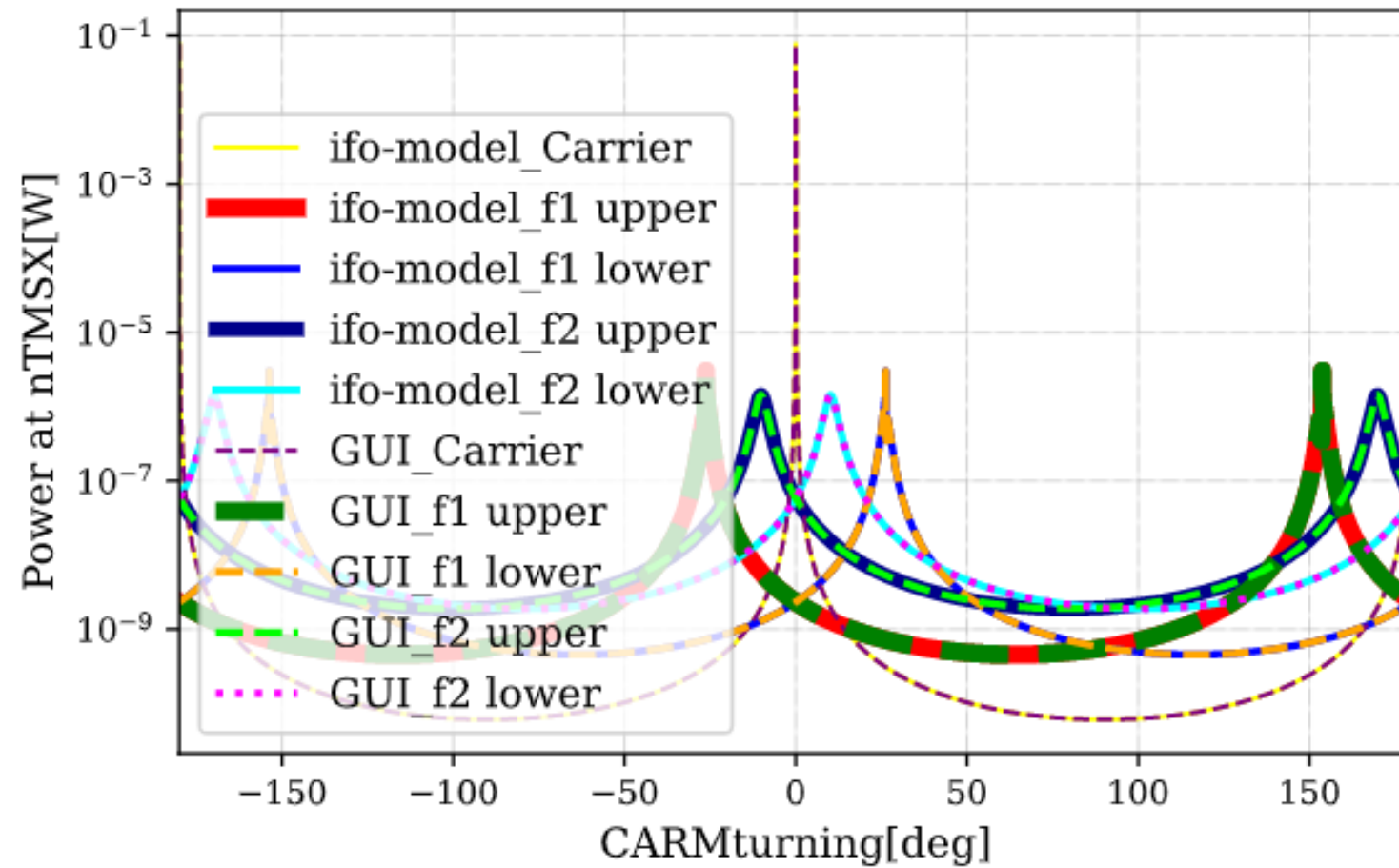
CARM_POP



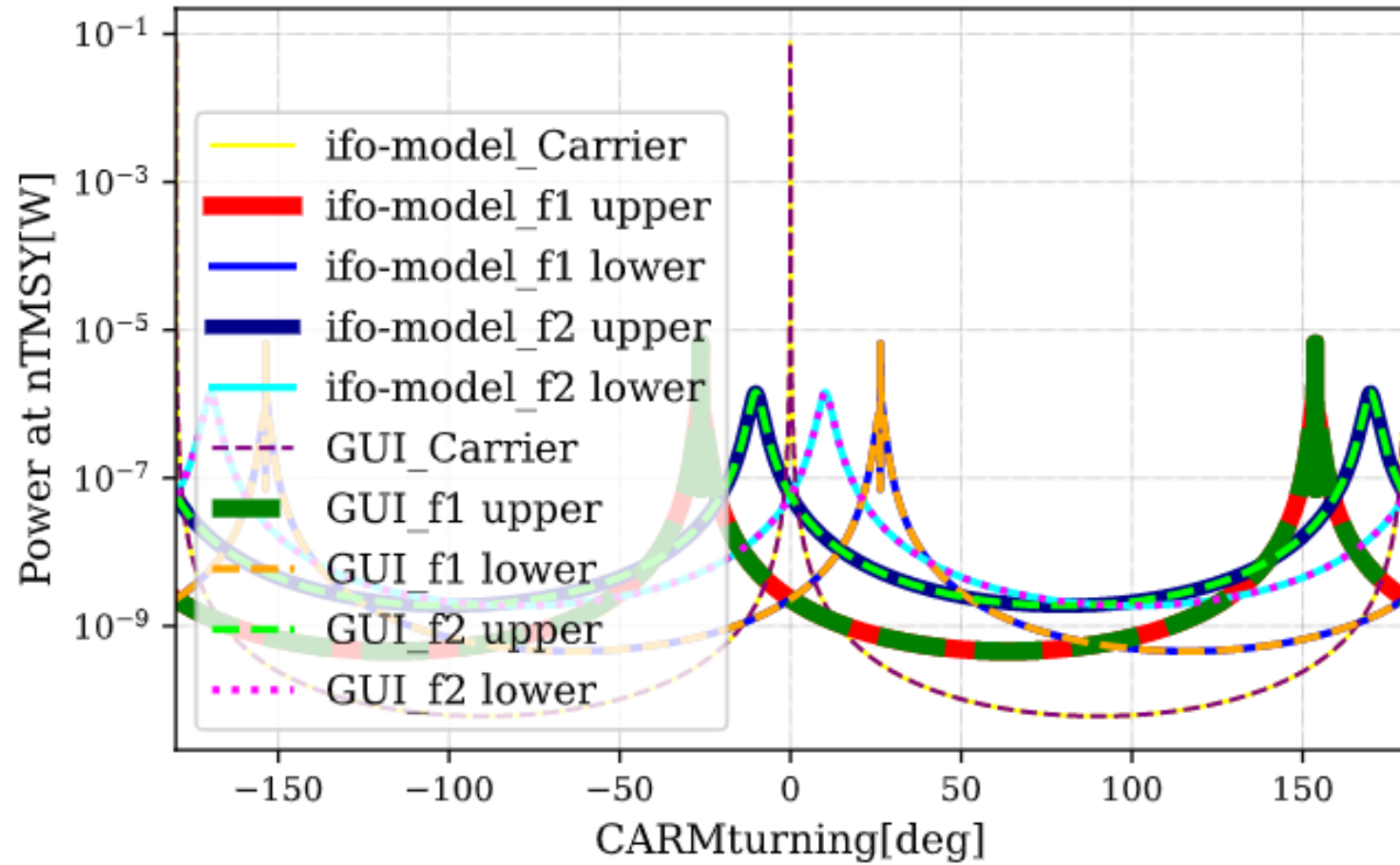
CARM_POS



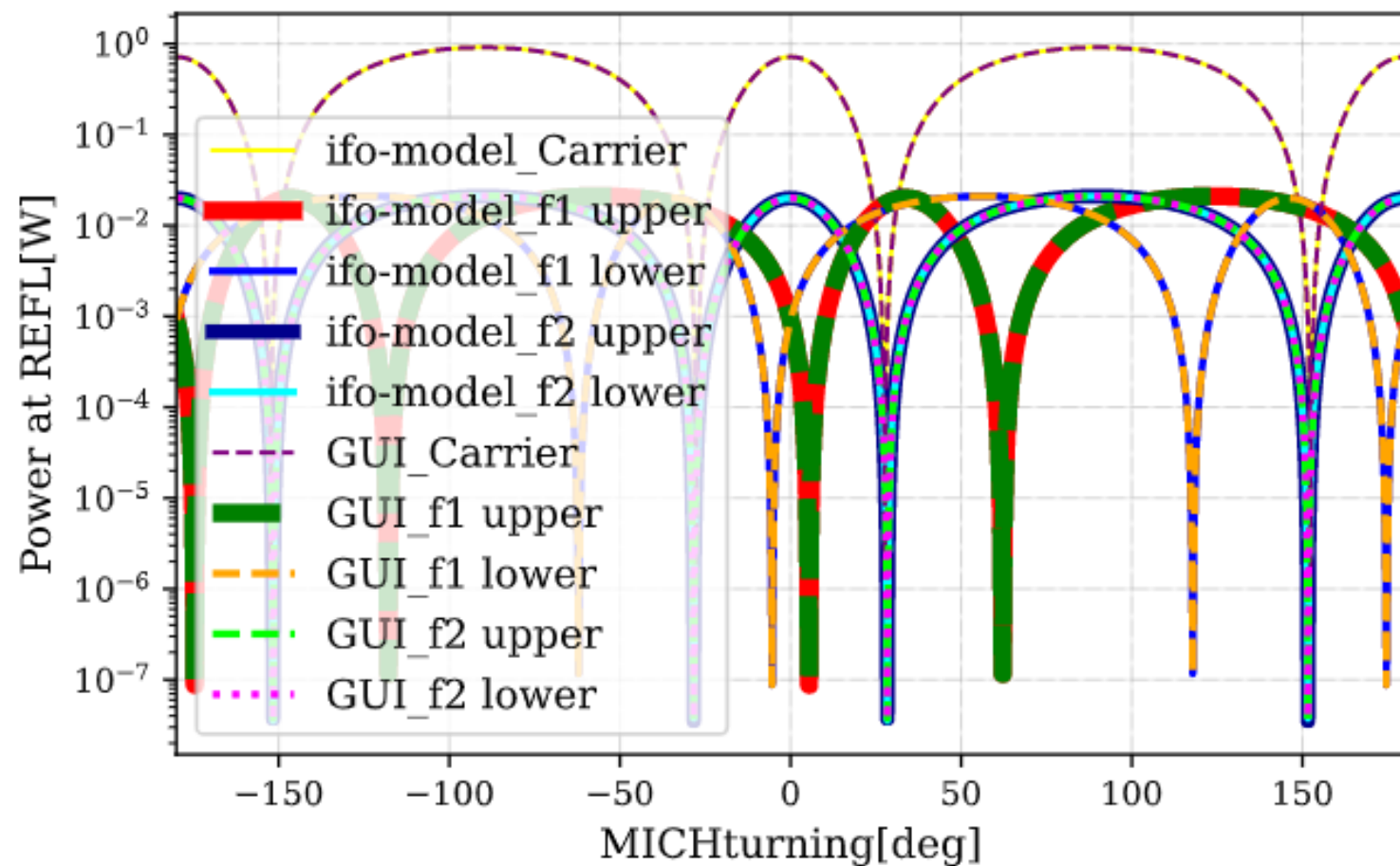
CARM_nTMSX



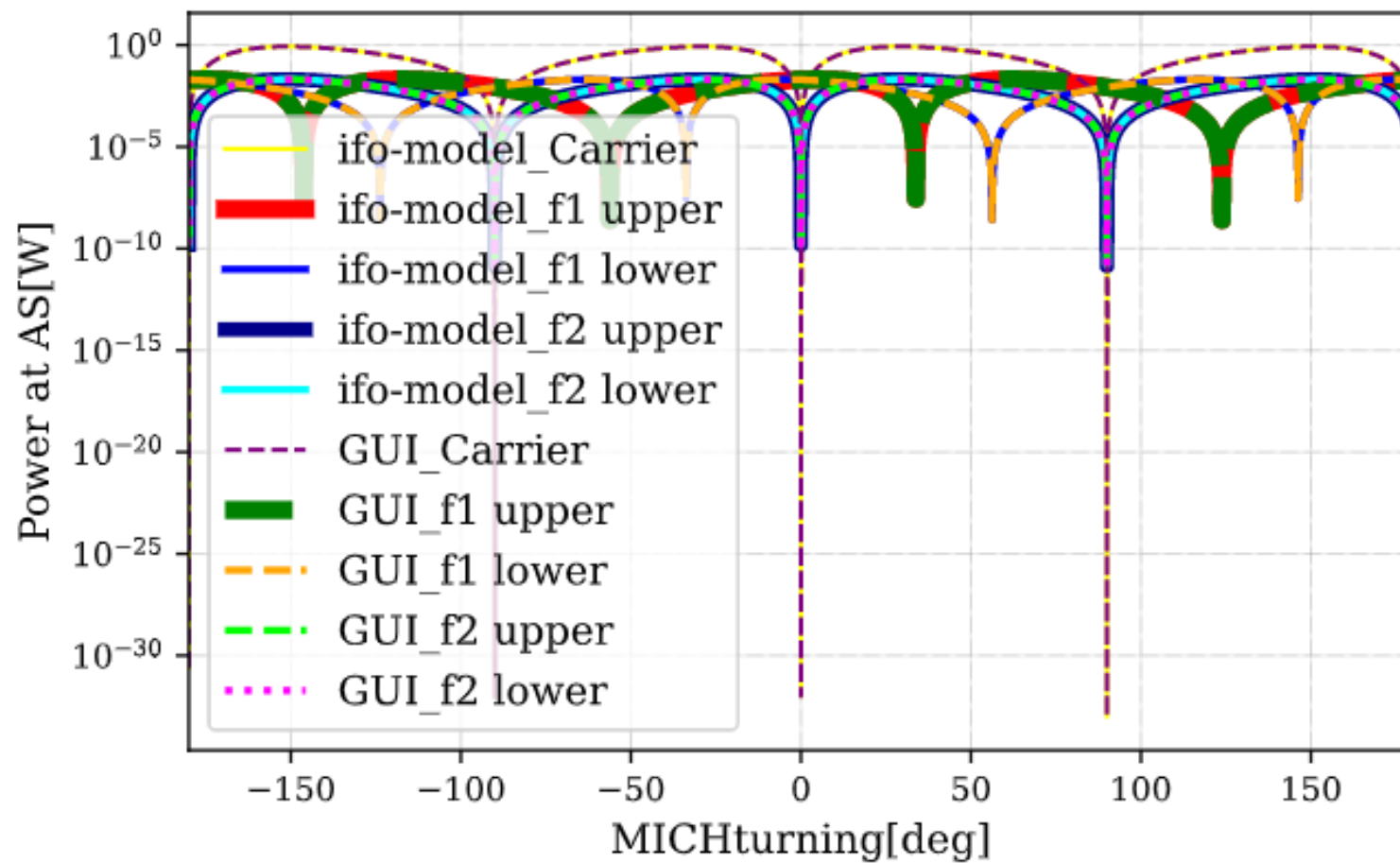
CARM_nTMSY



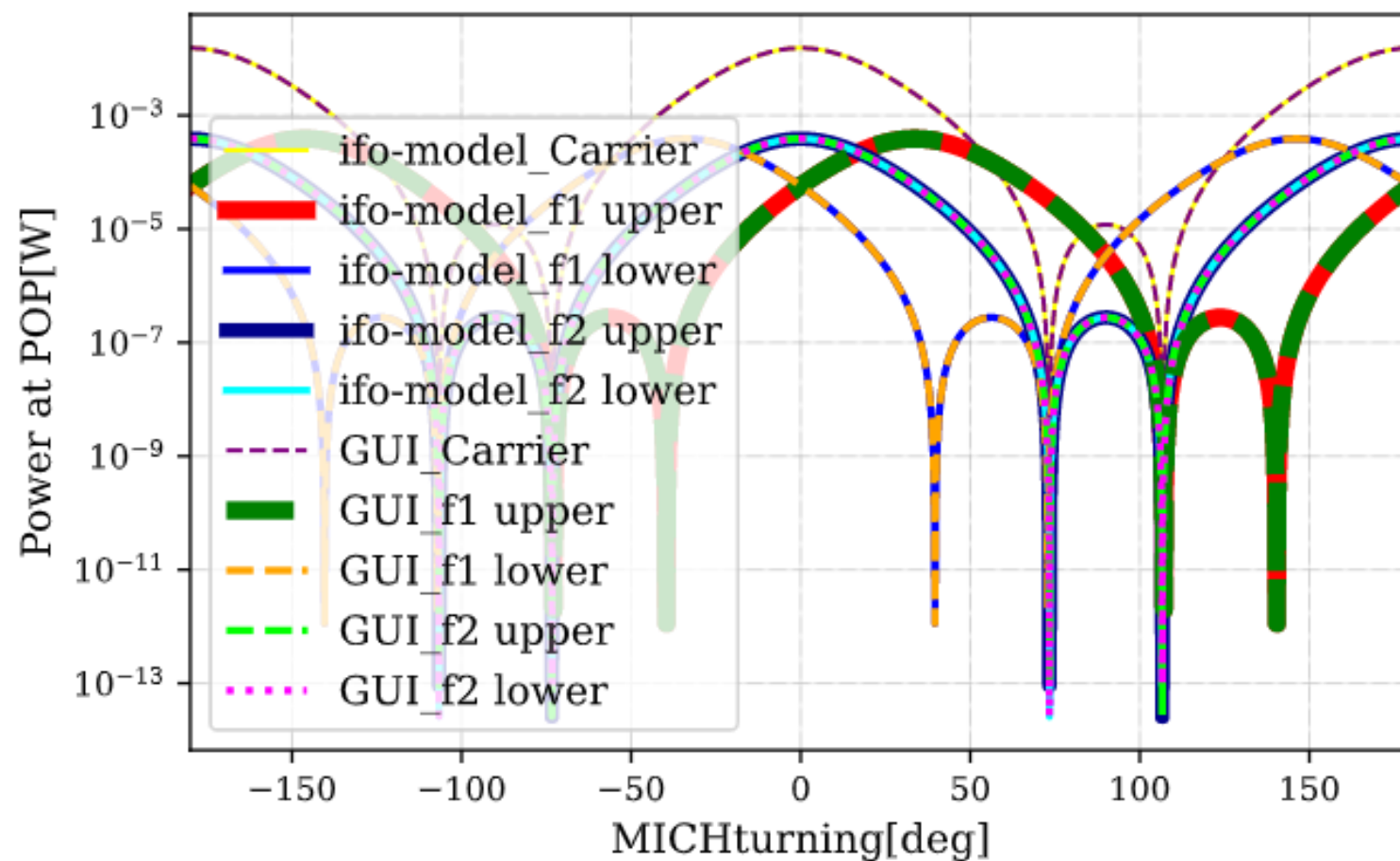
MICH_REFL



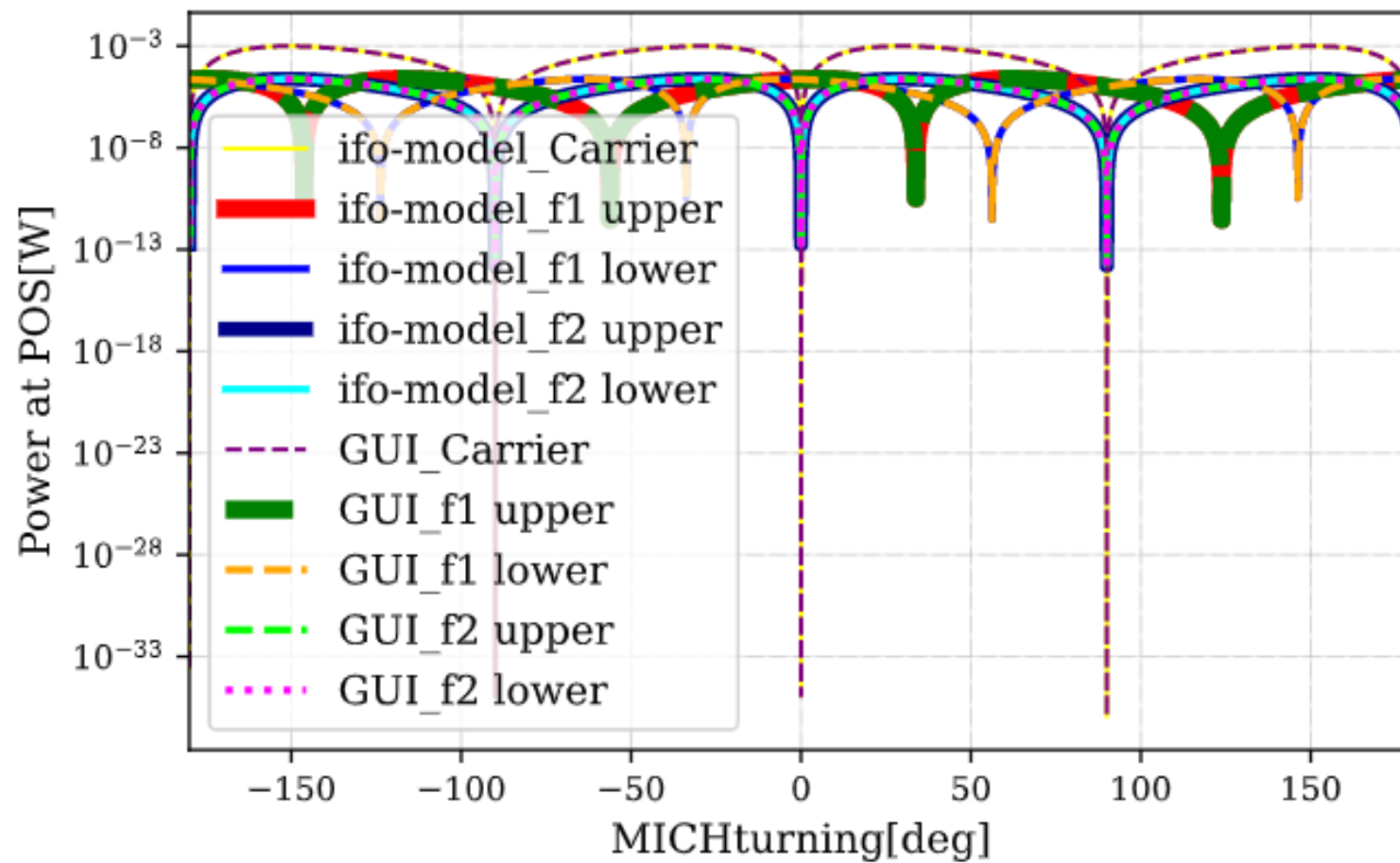
MICH_AS



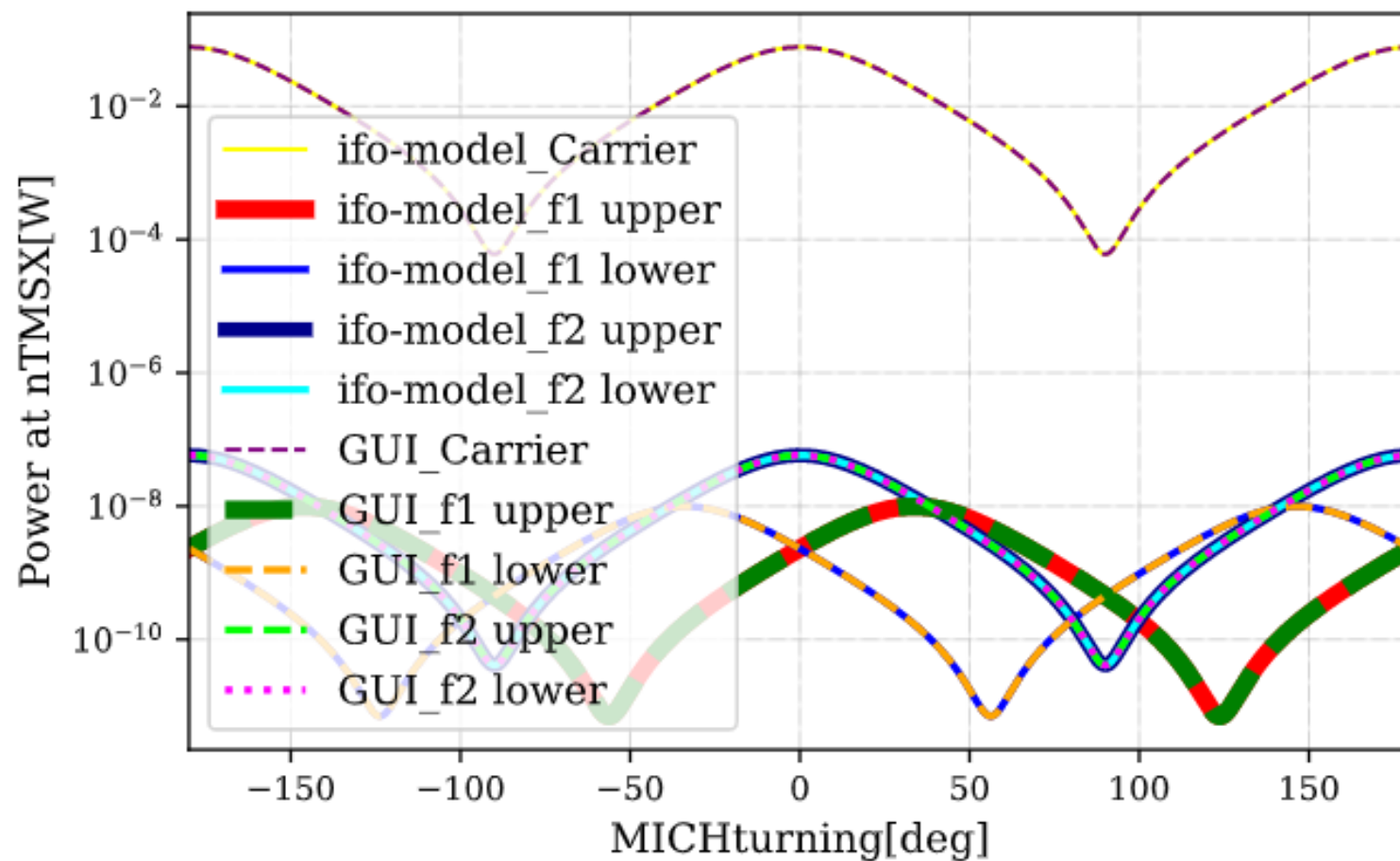
MICH_POP



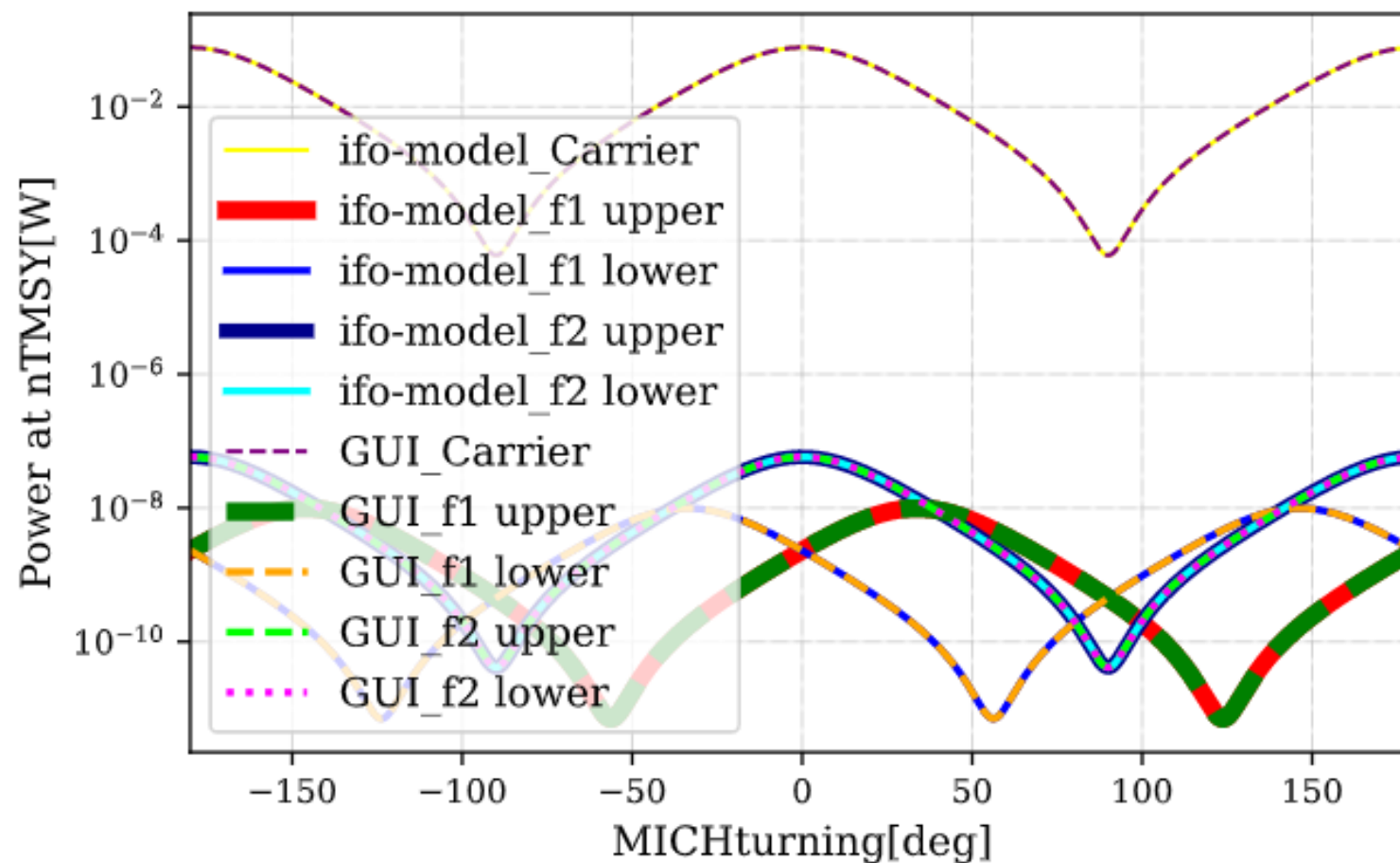
MICH_POS



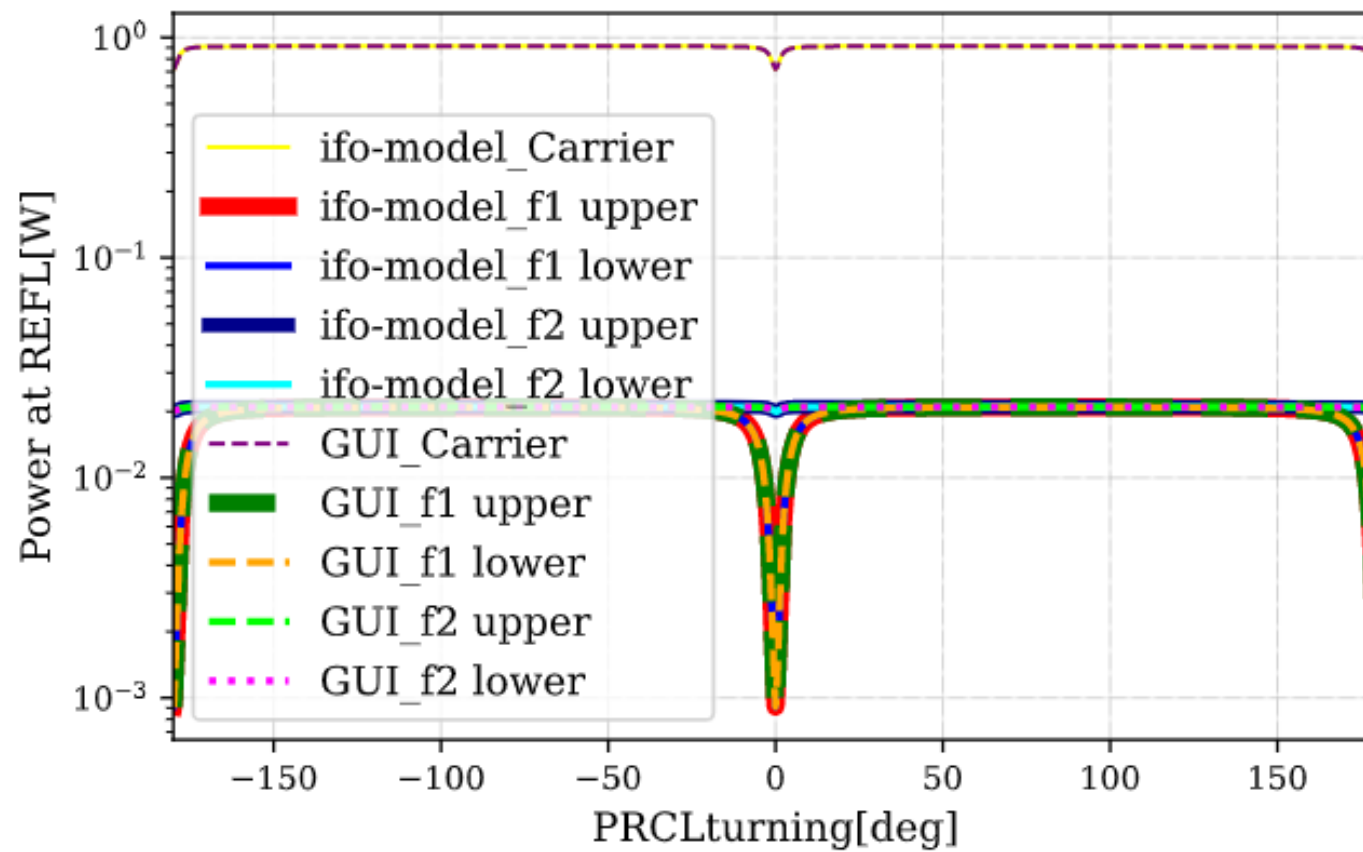
MICH_nTMSX



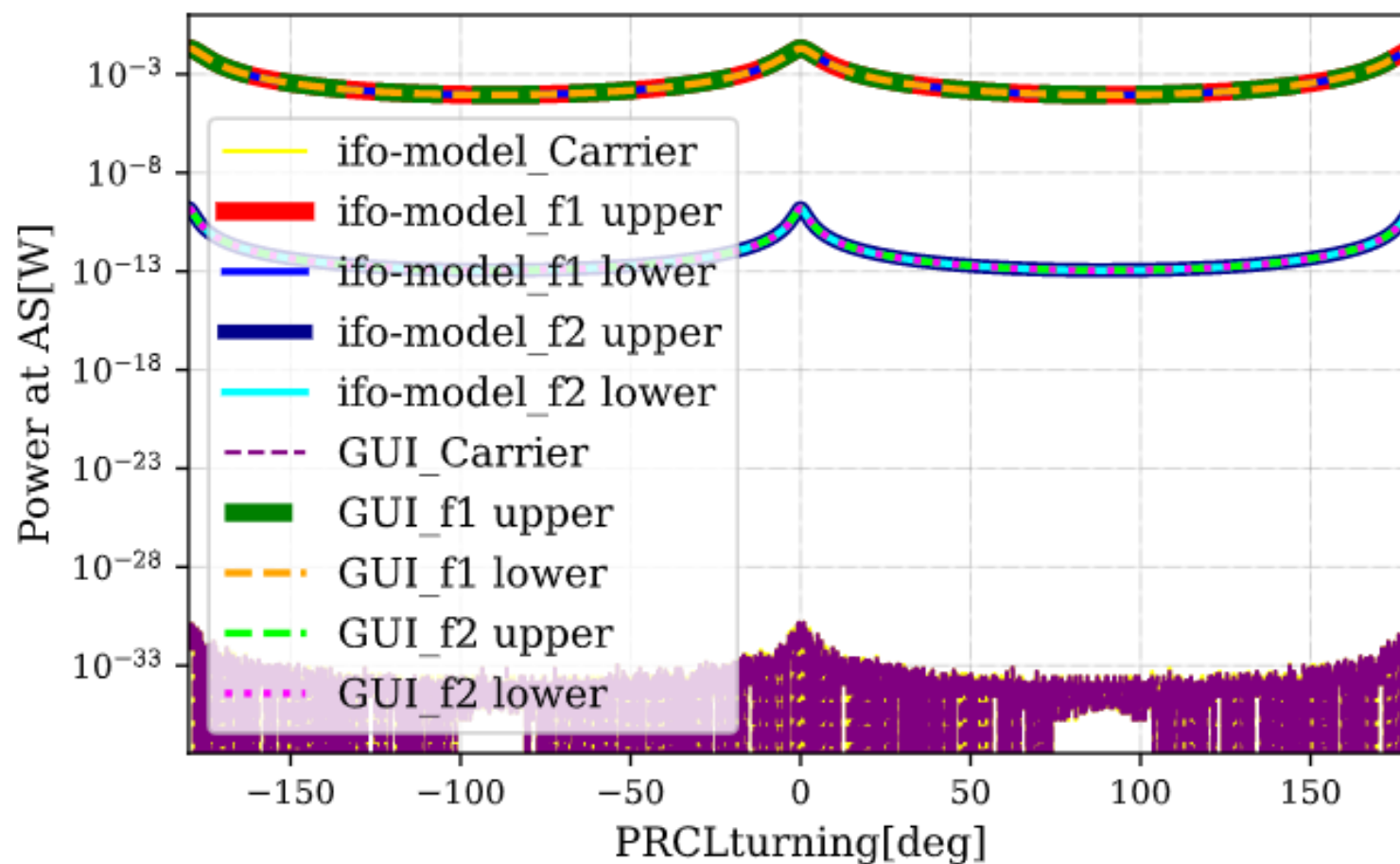
MICH_nTMSY



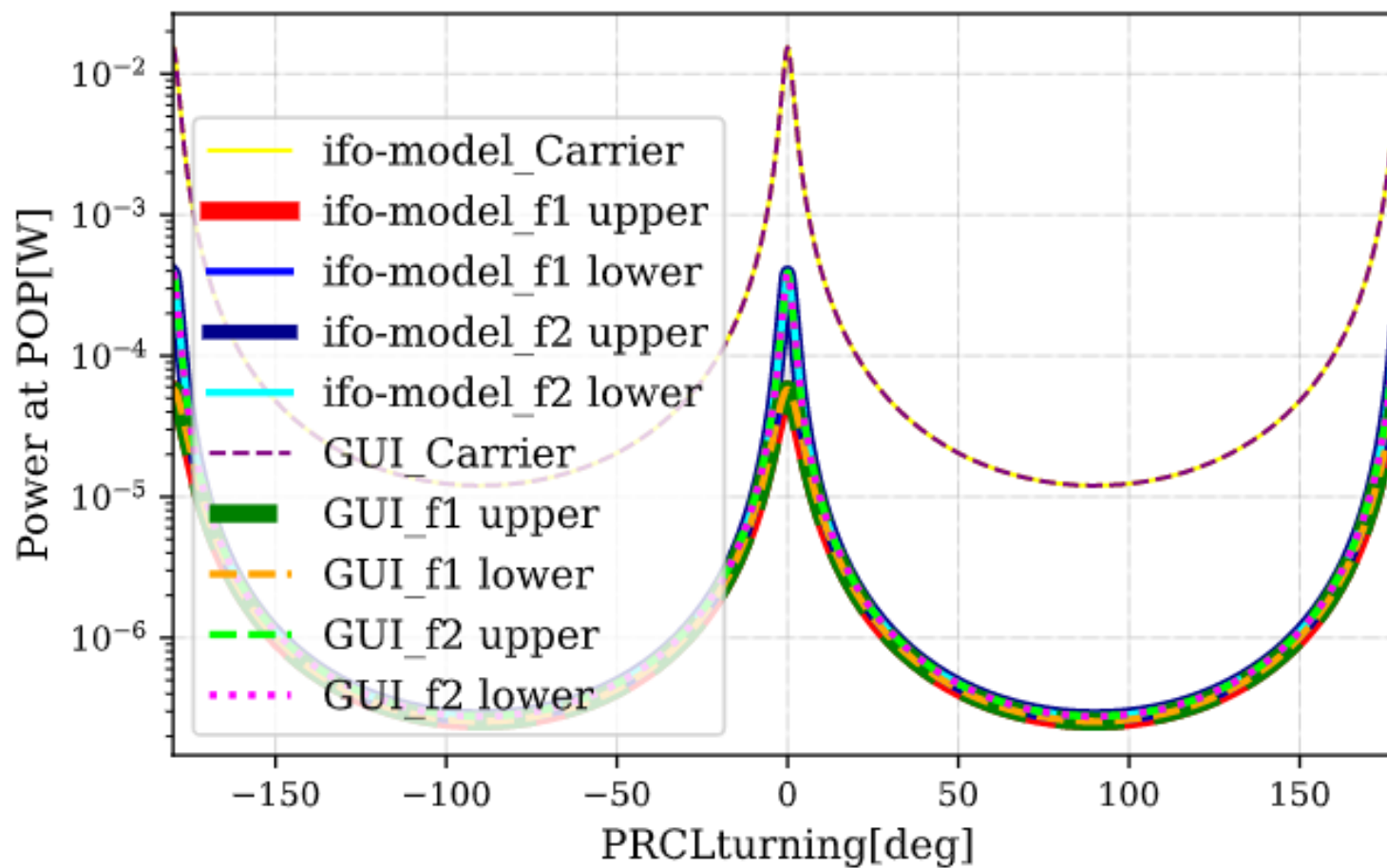
PRCL_REFL



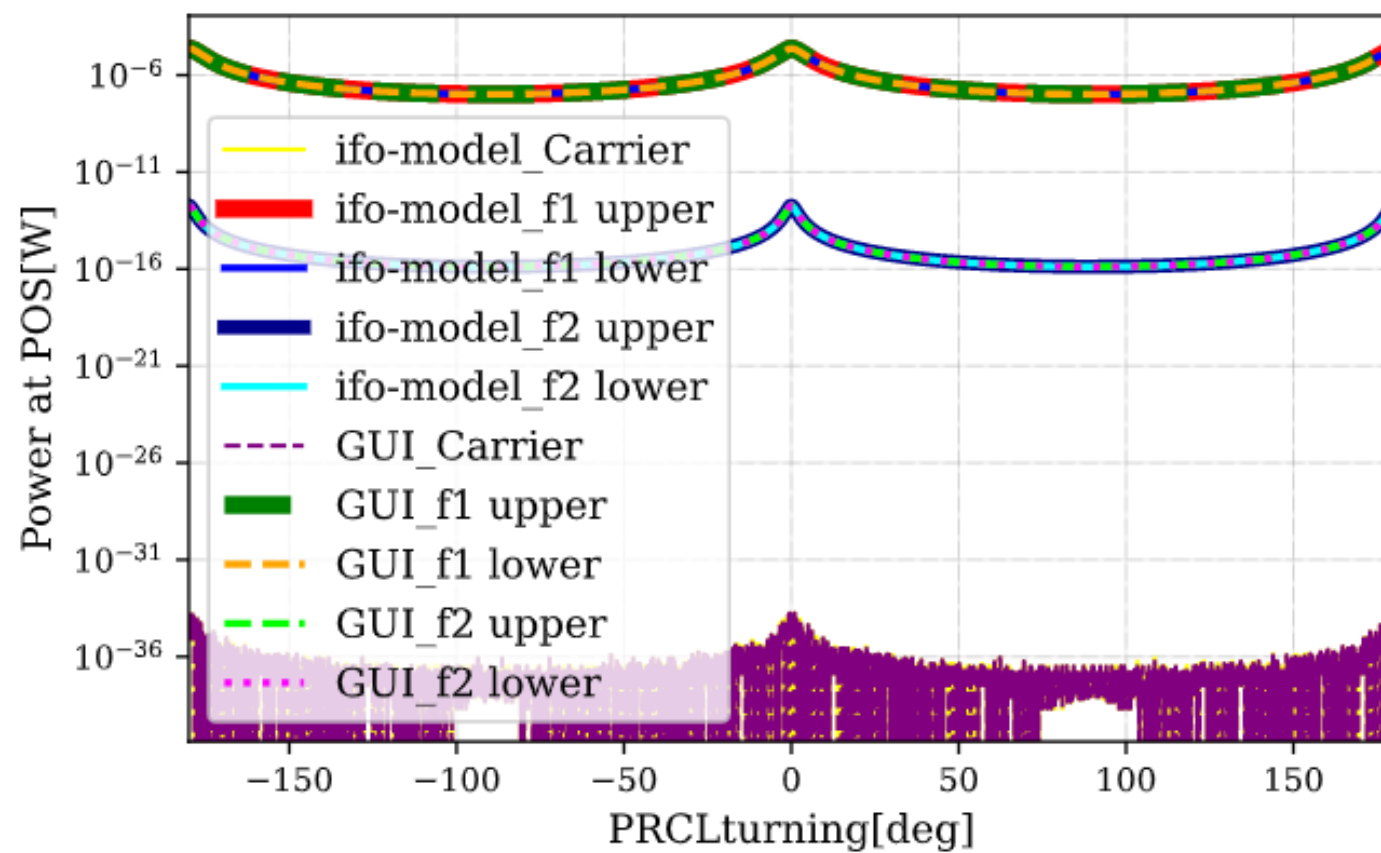
PRCL_AS



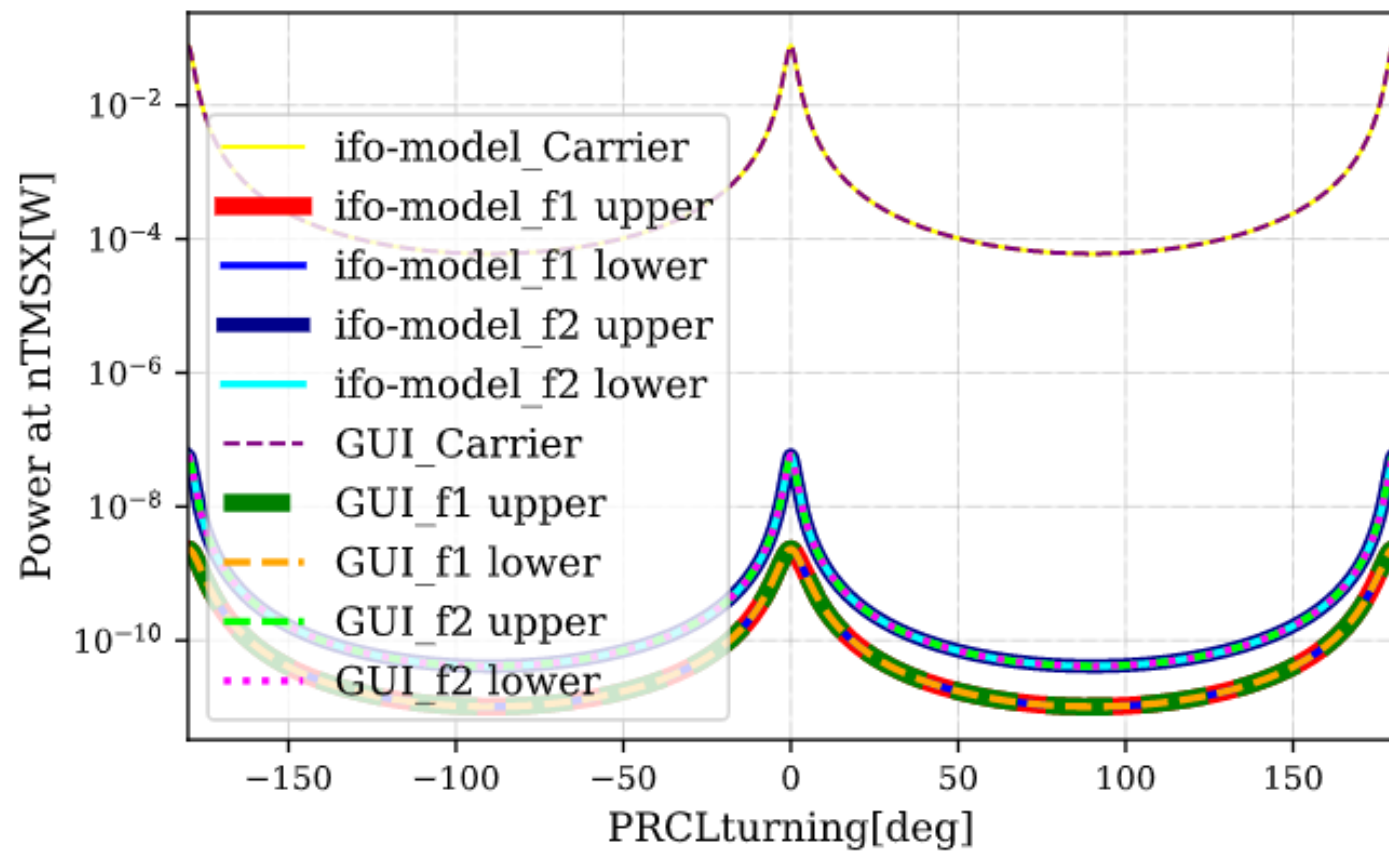
PRCL_POP



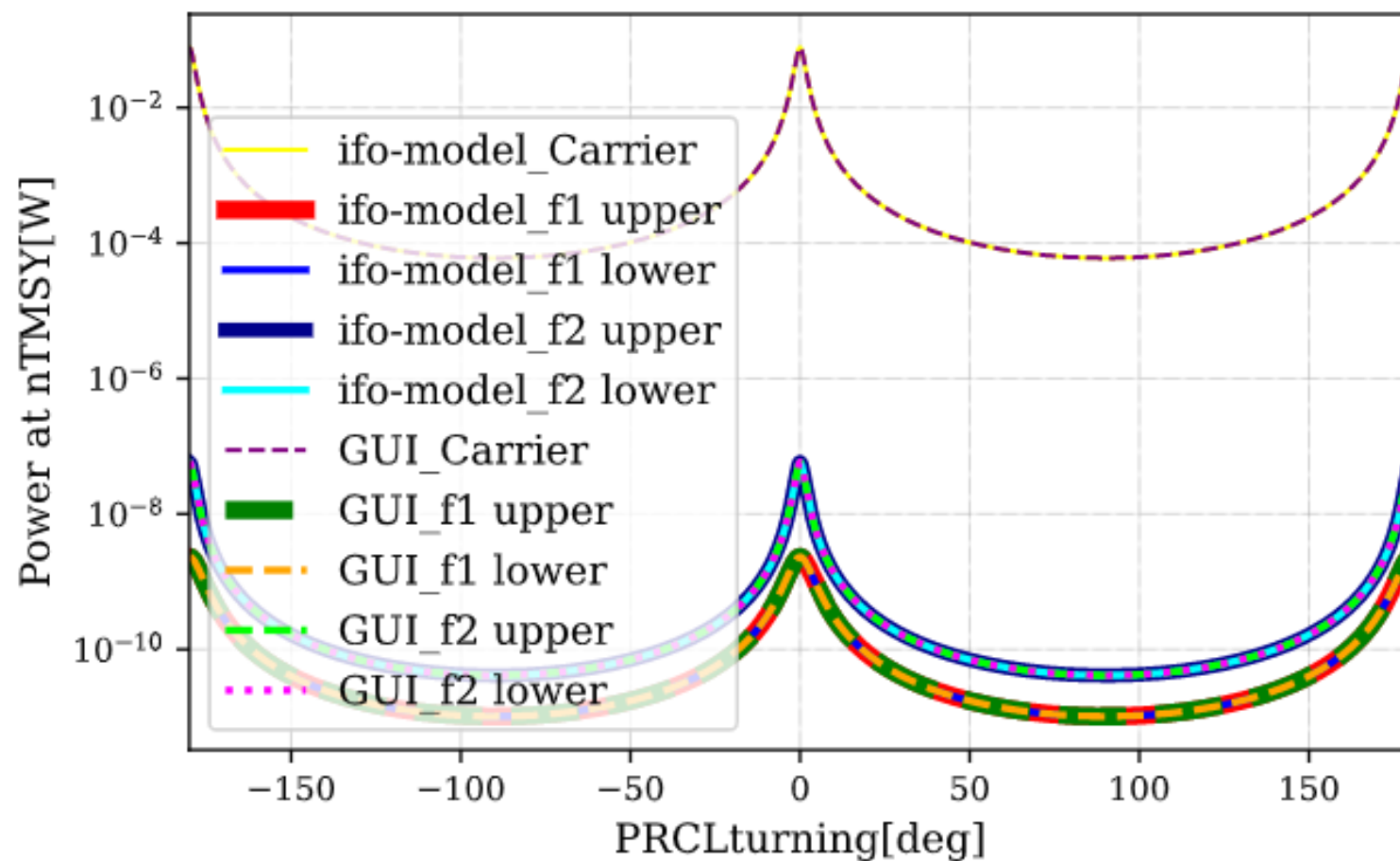
PRCL_POS



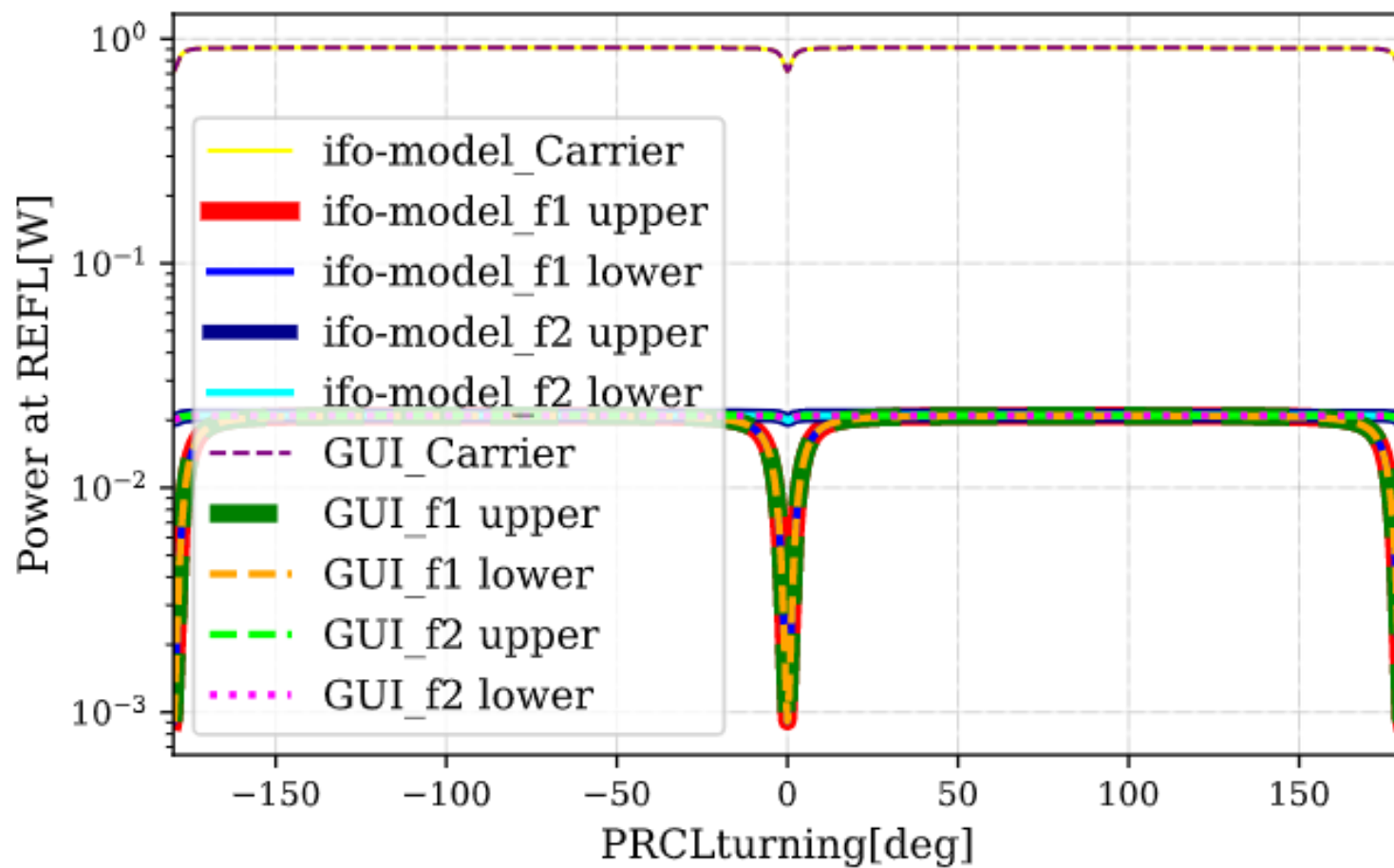
PRCL_nTMSX



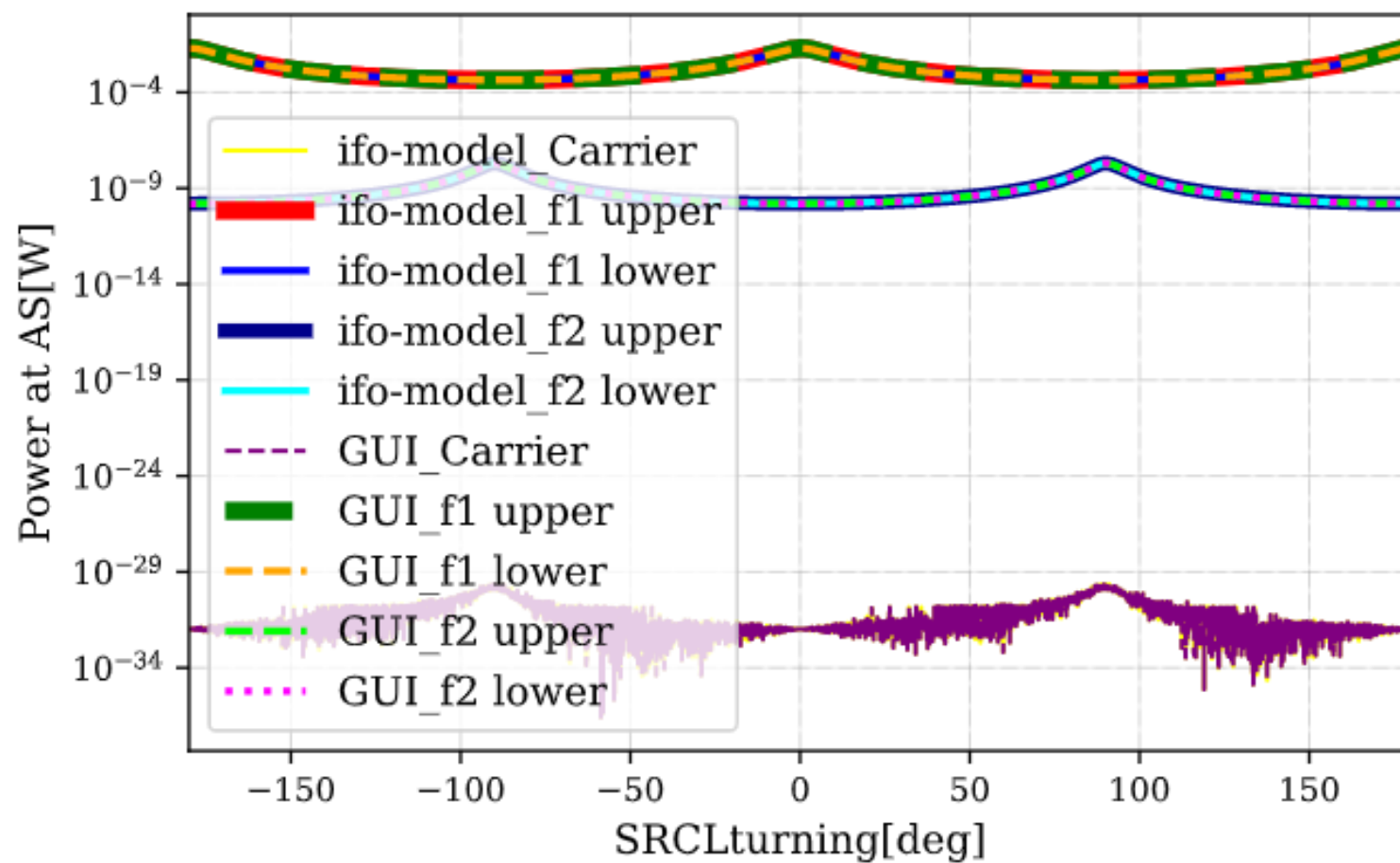
PRCL_nTMSY



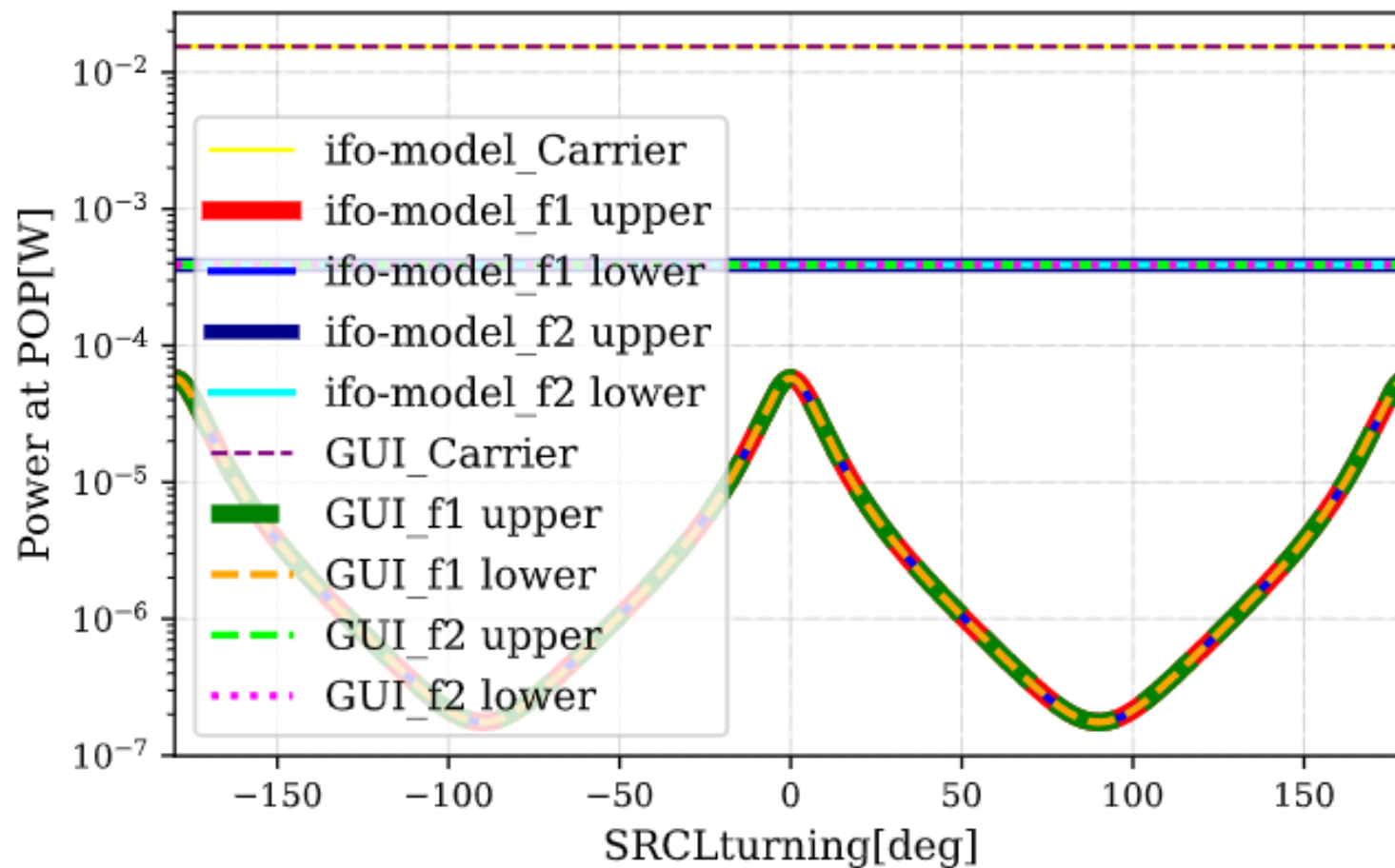
SRCL_REFL



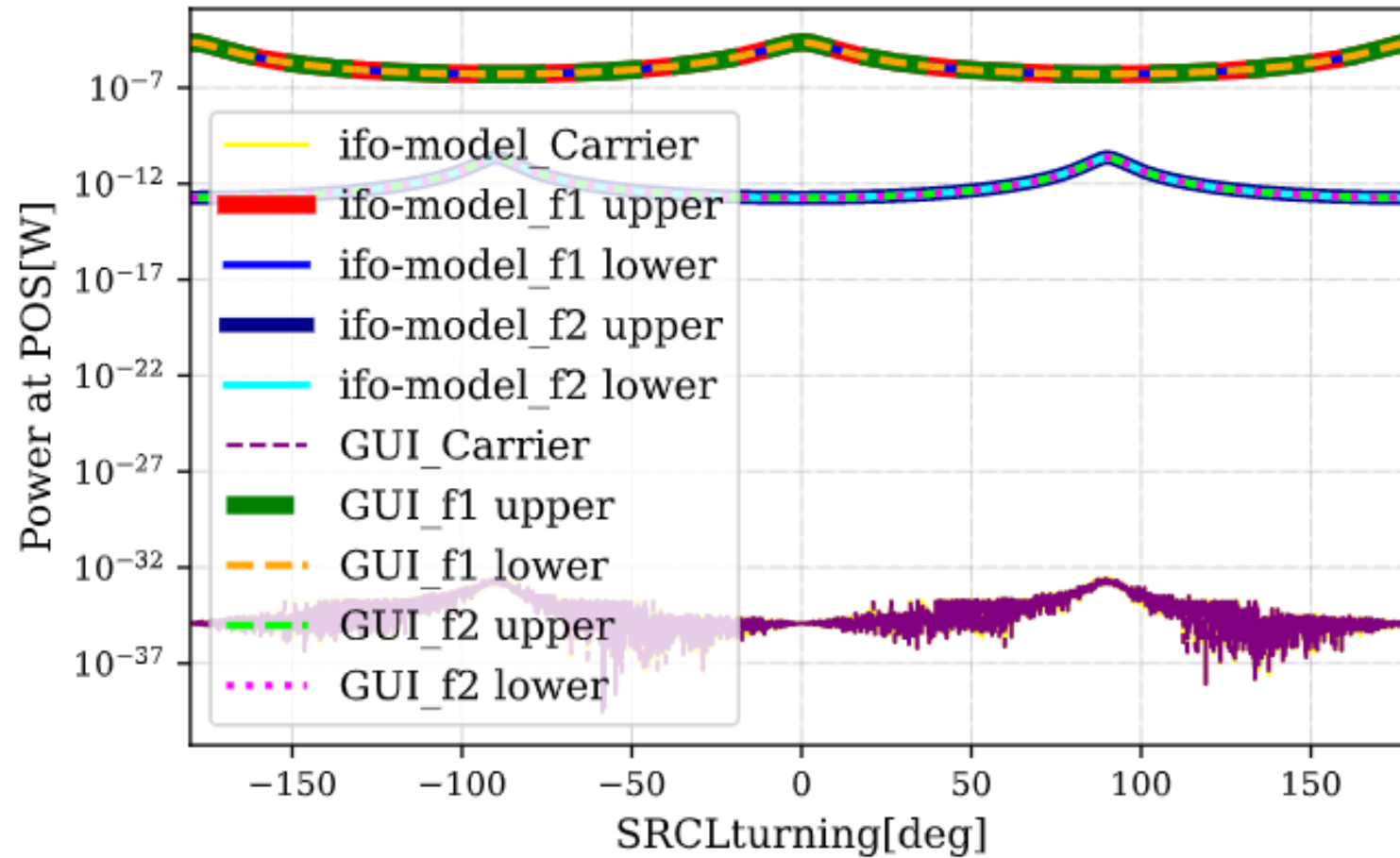
SRCL_AS



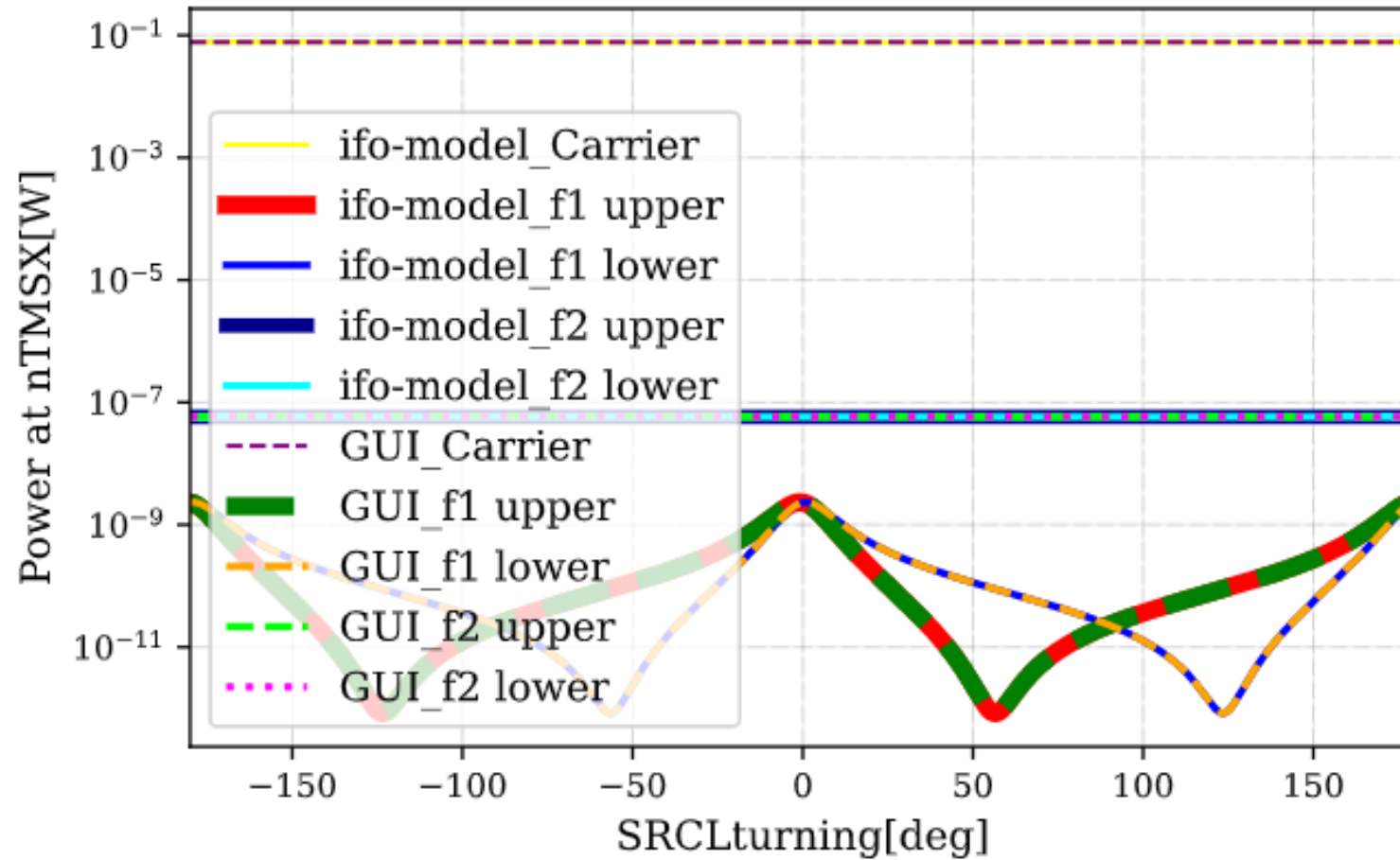
SRCL_POP



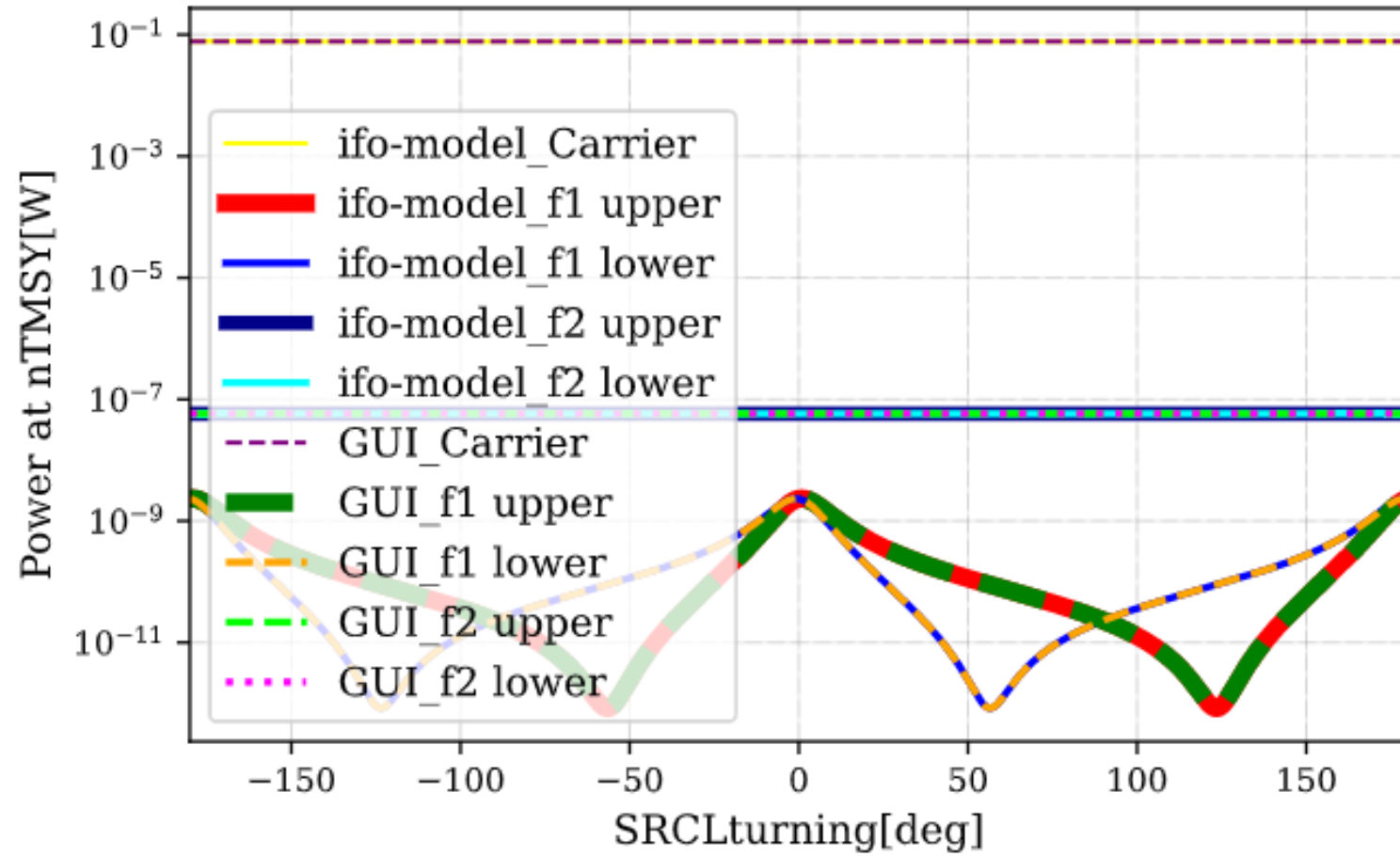
SRCL_POS



SRCL_nTMSX



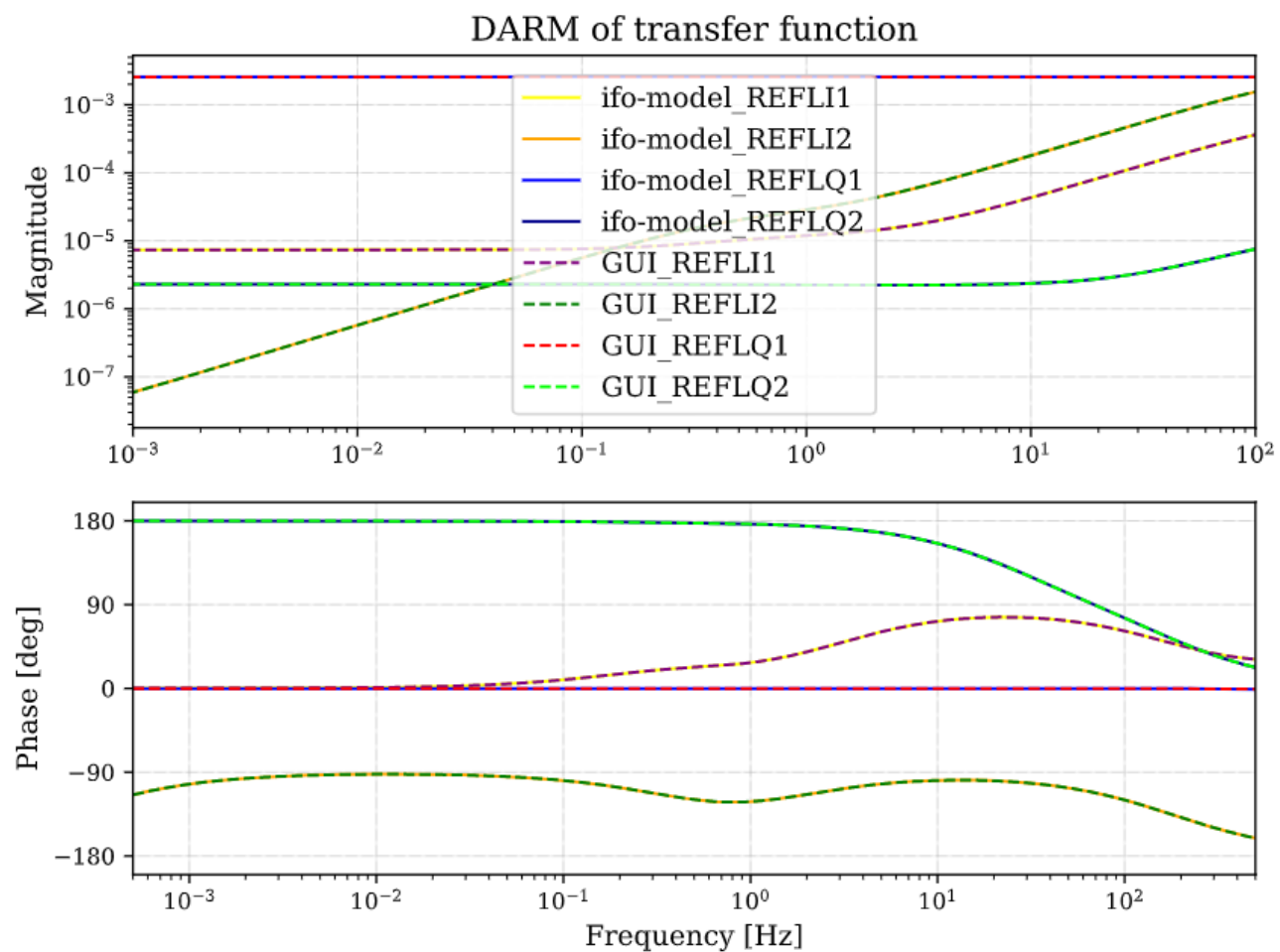
SRCL_nTMSY



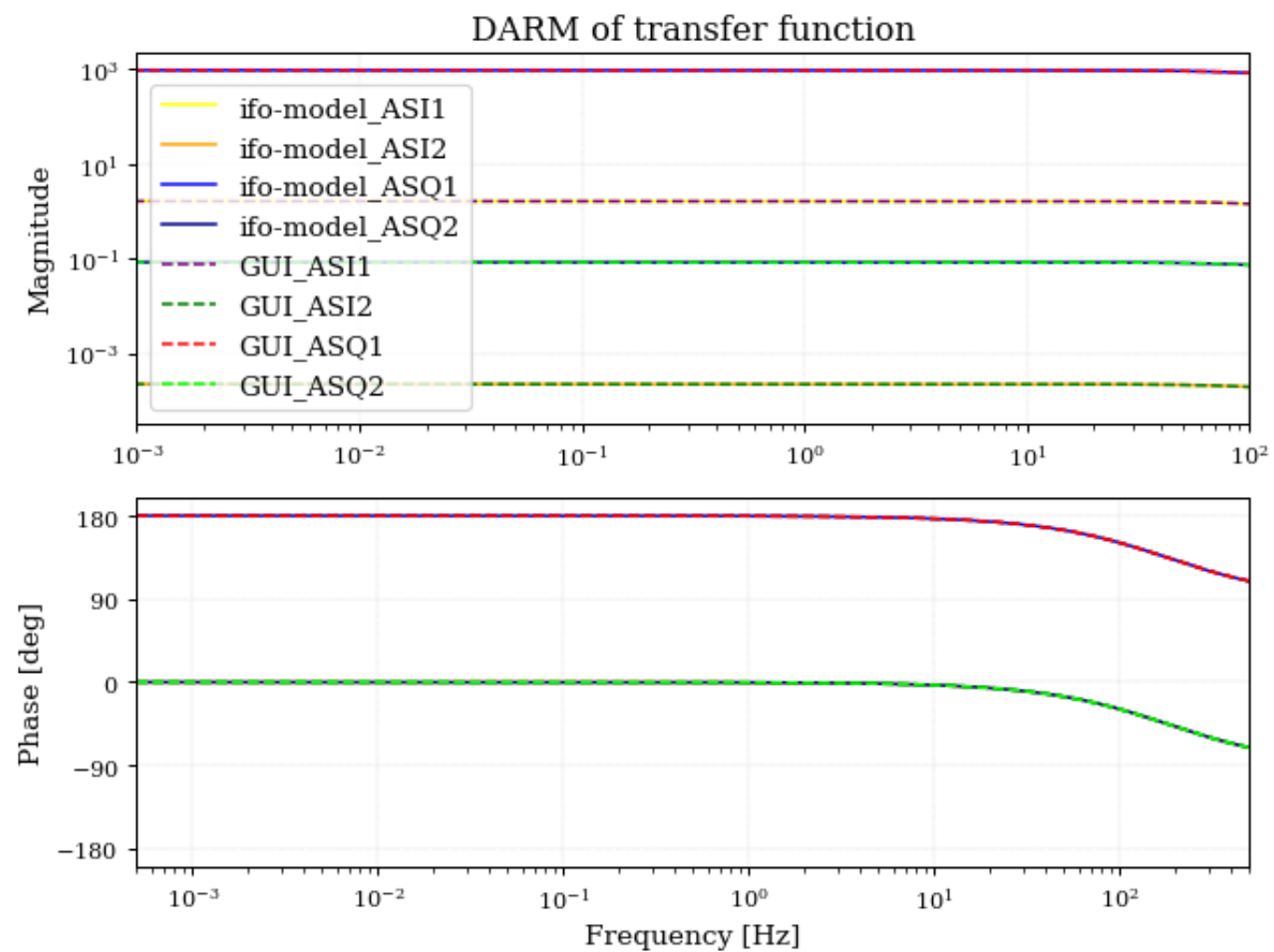
Cross Check: DRFPMI Transfer function

- DRFPMI
- Transfer function
- Demodulated signal (I1, Q1, I2, Q2)
- DoF: DARM, CARM, MICH, PRCL, SRCL
- Nod: REFL, AS, POP, POS, nTMSX, nTMSY

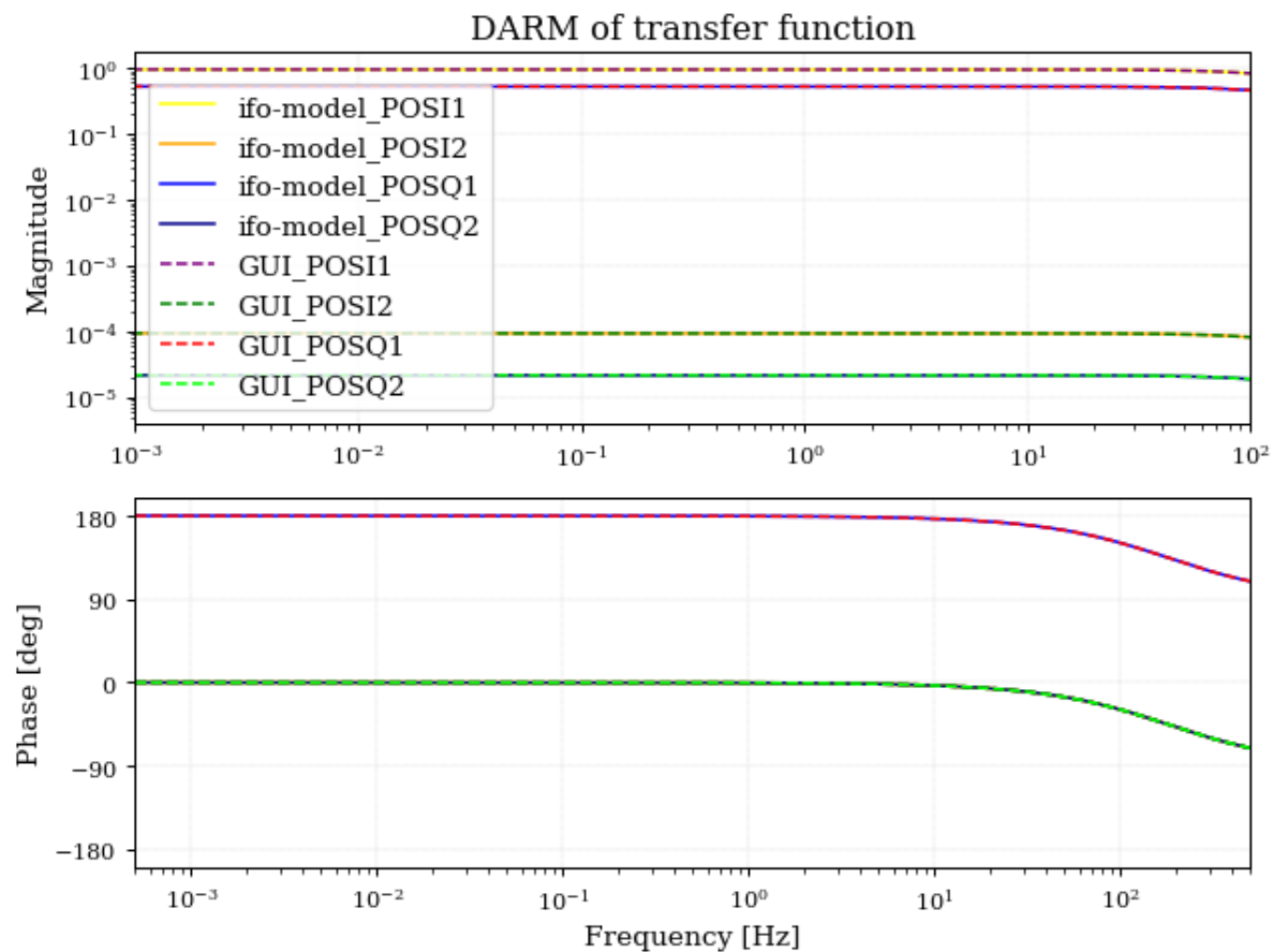
DARM_REFL



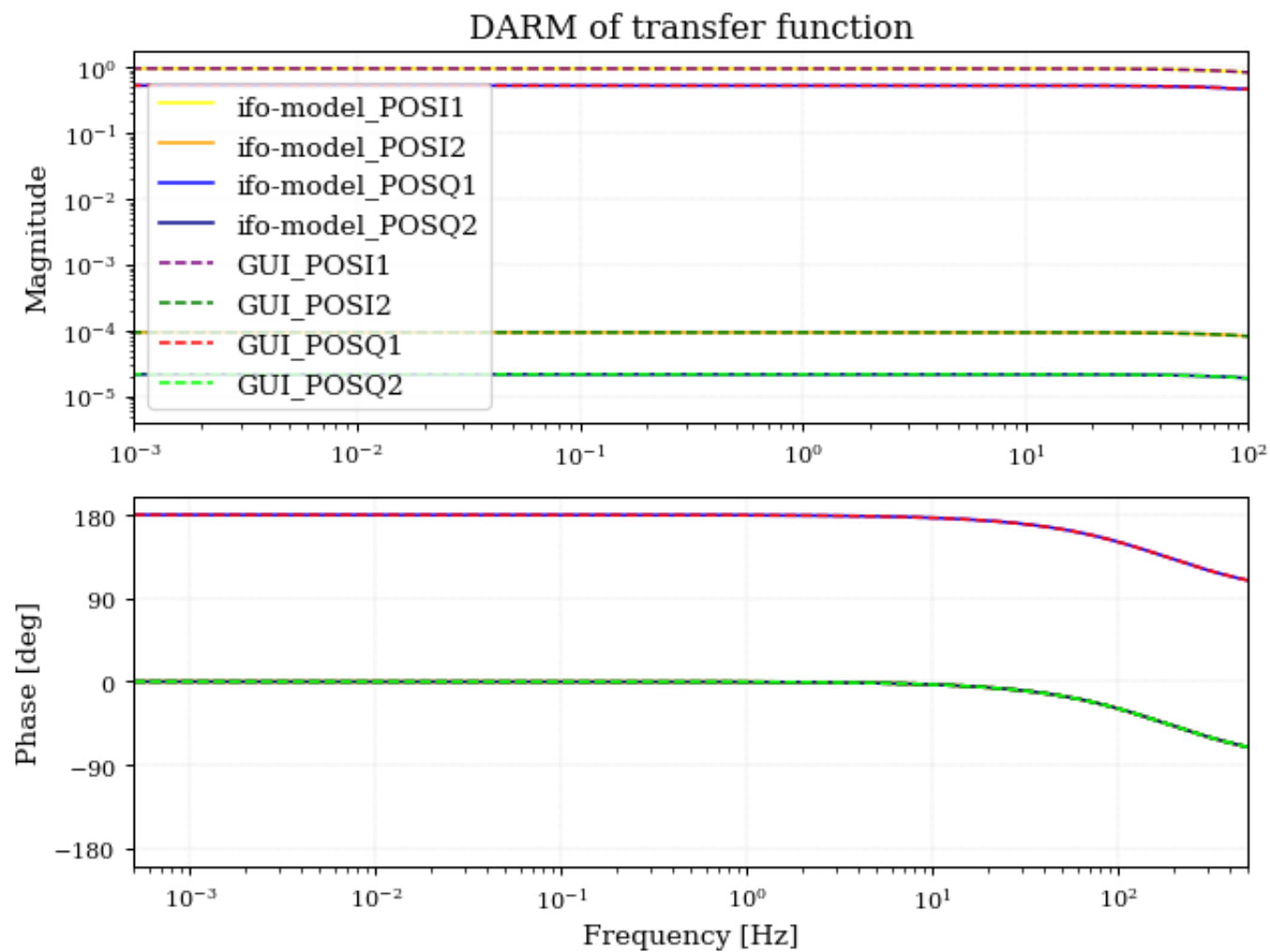
DARM_AS



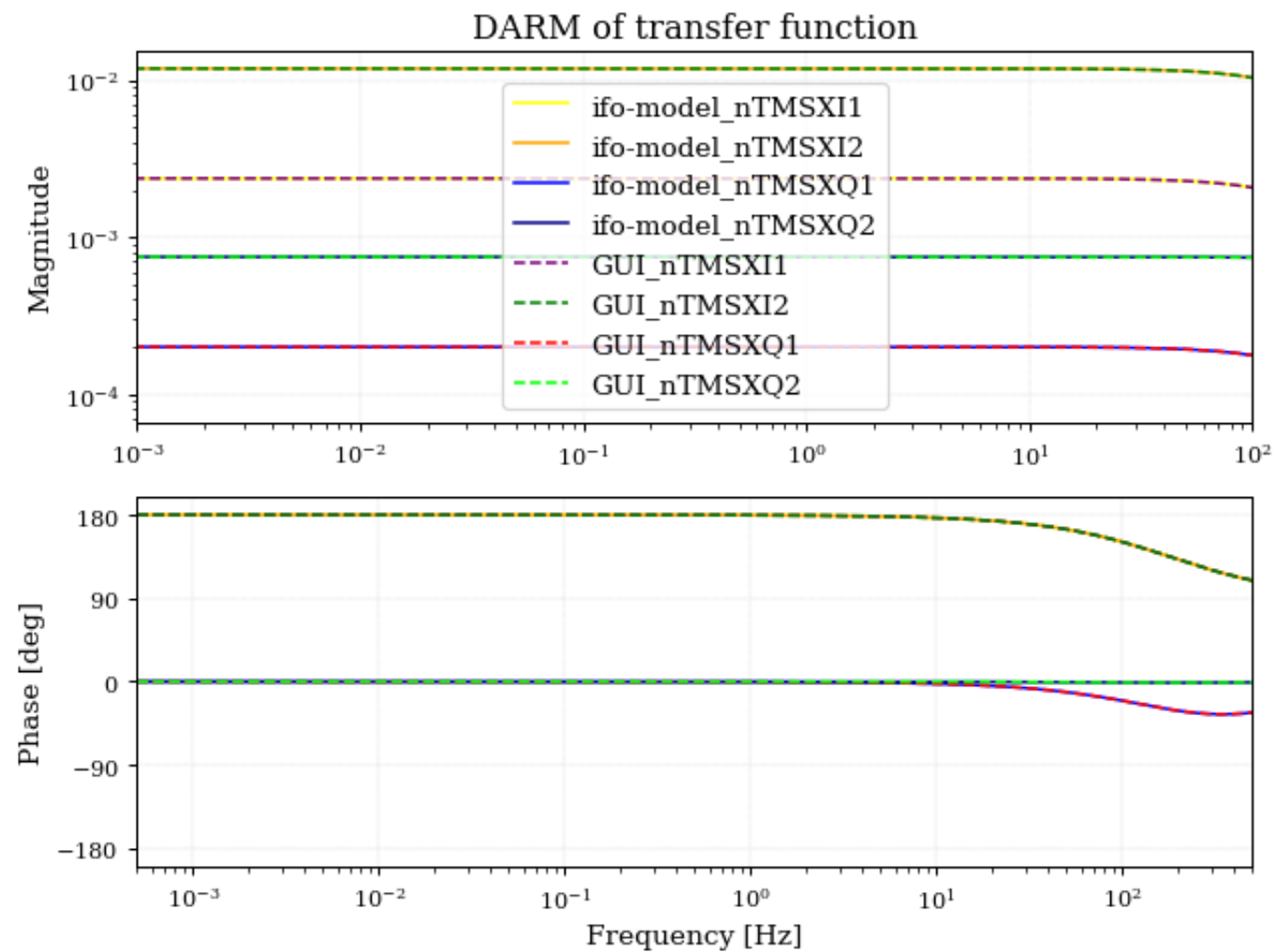
DARM_POP



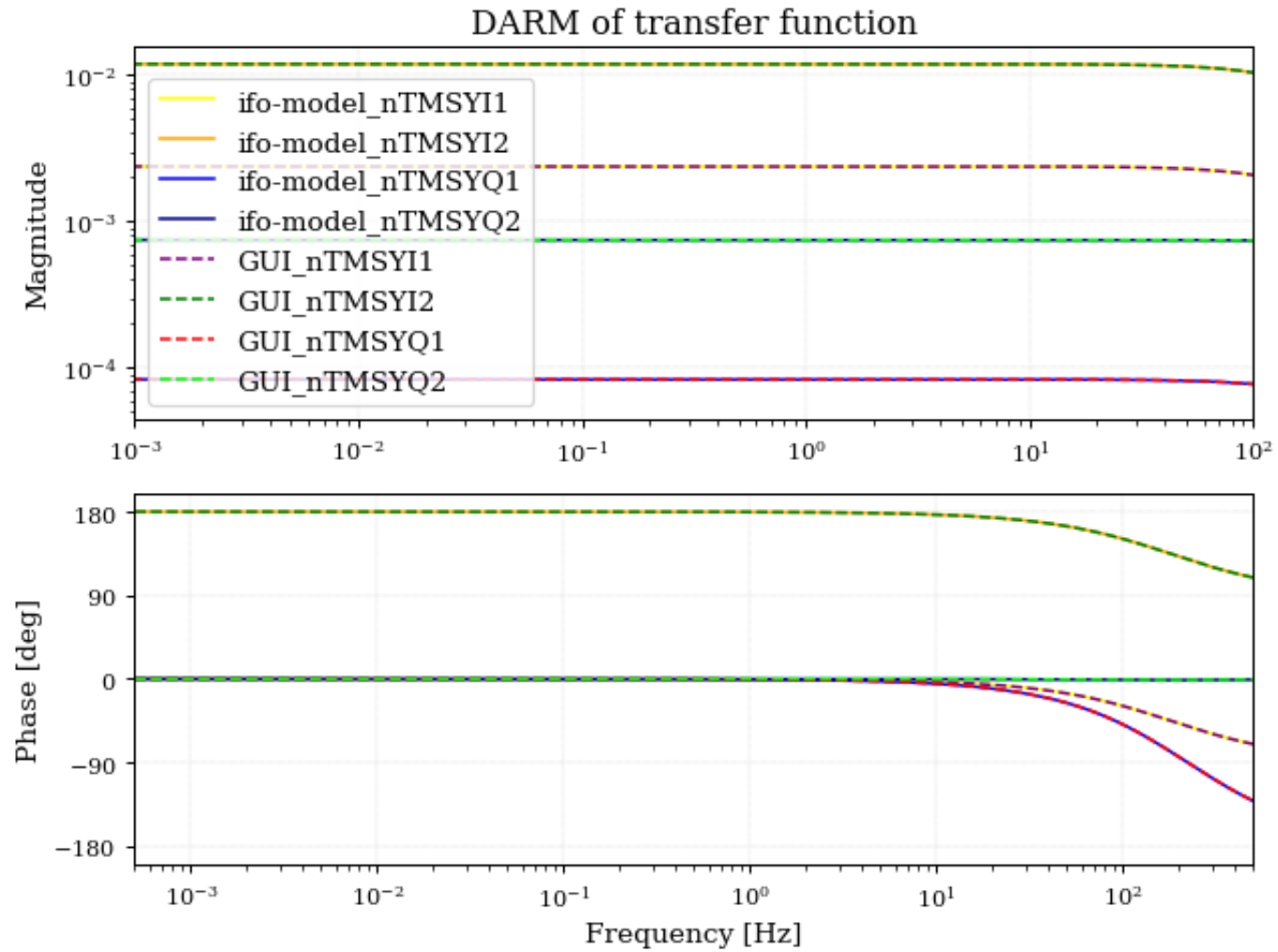
DARM_POS



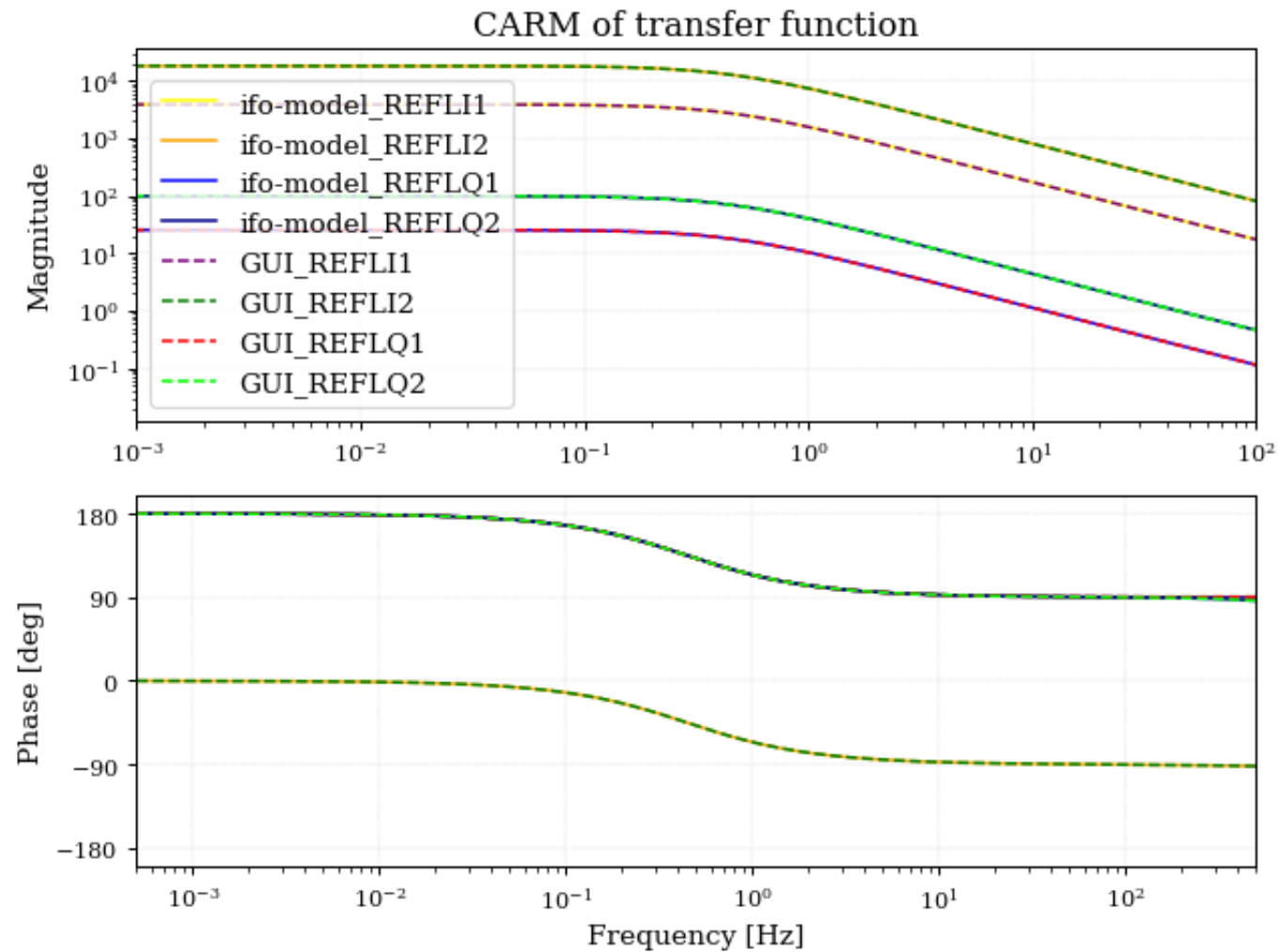
DARM_nTMSX



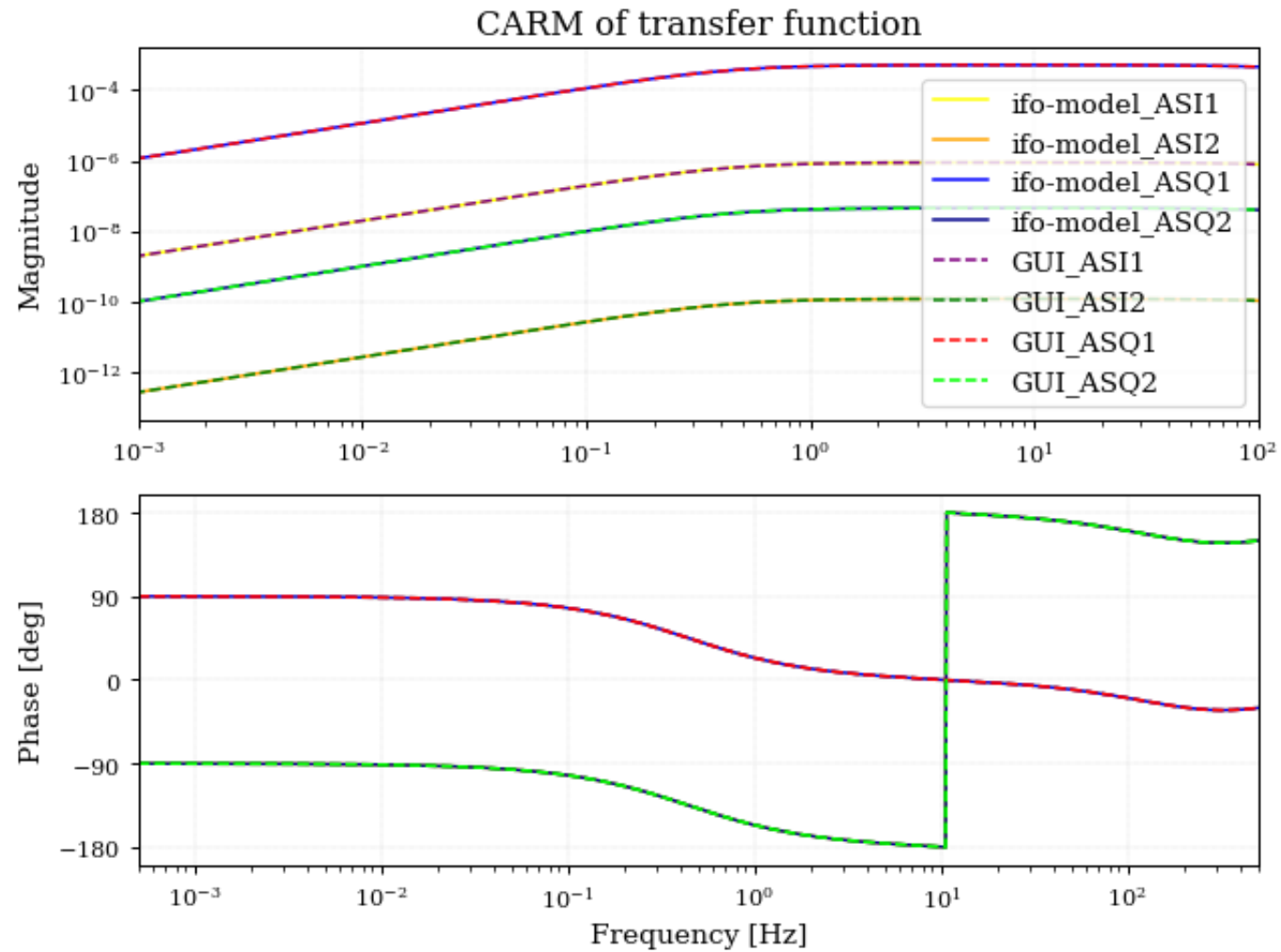
DARM_nTMSY



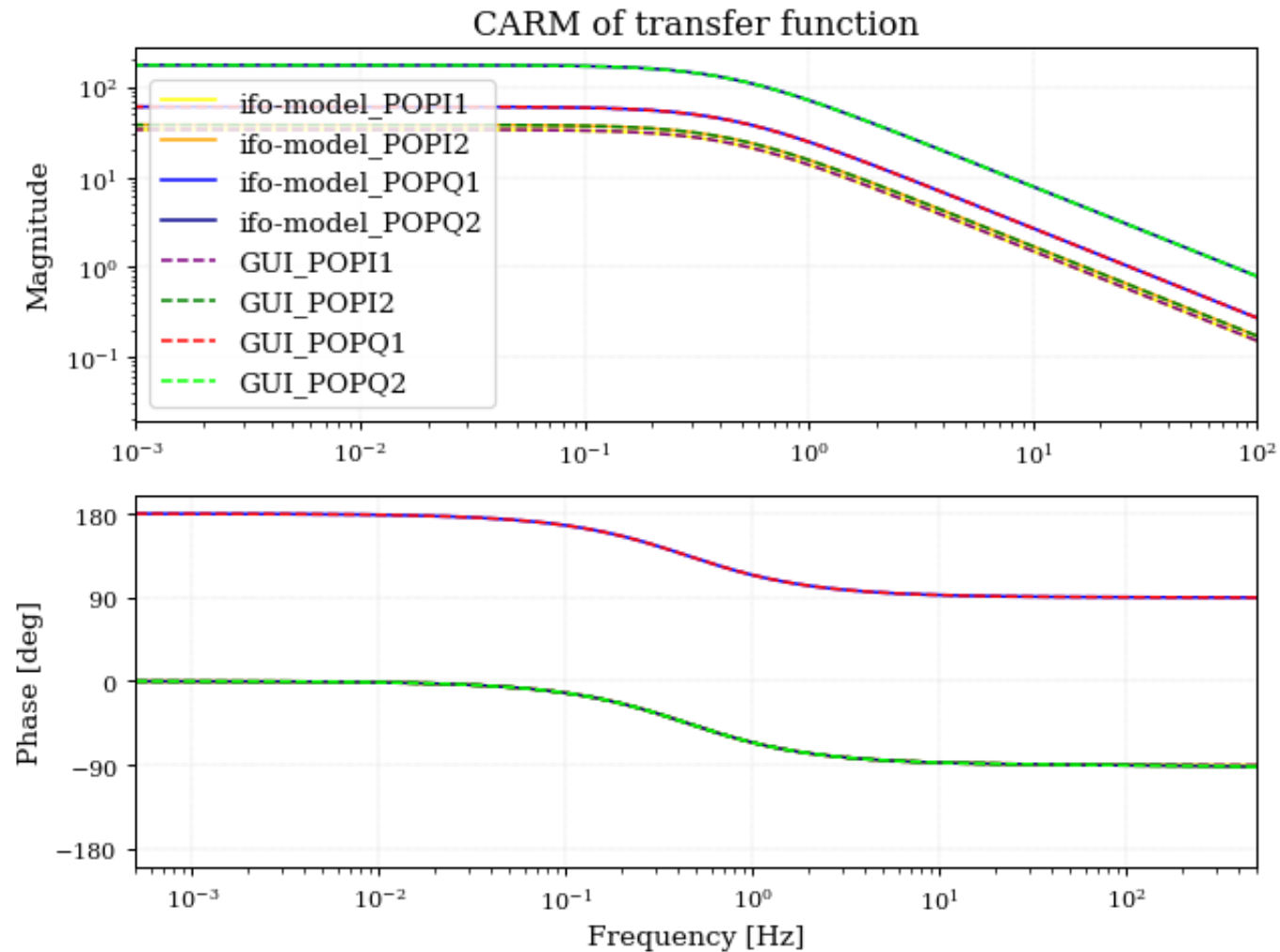
CARM_REFL



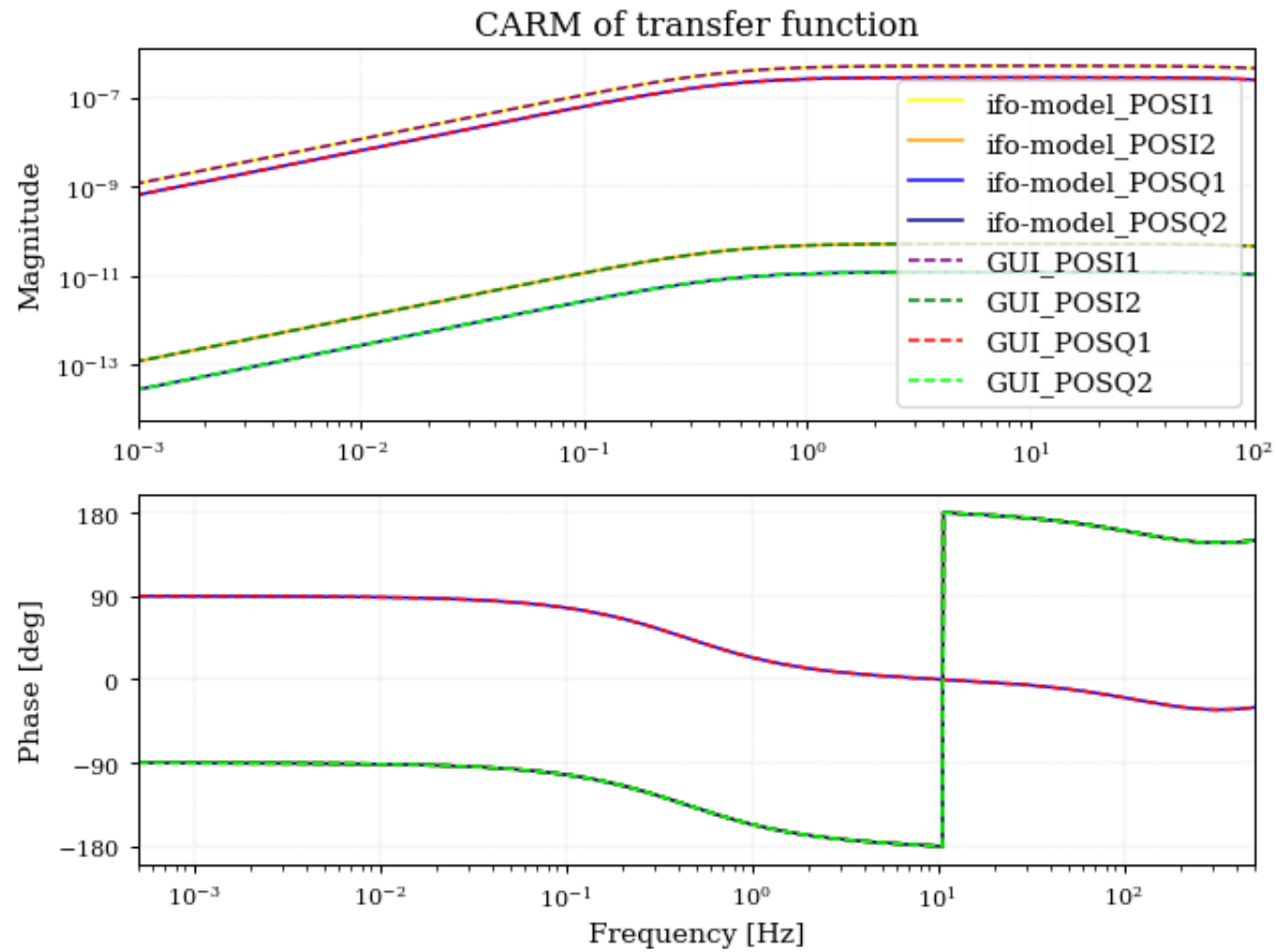
CARM_AS



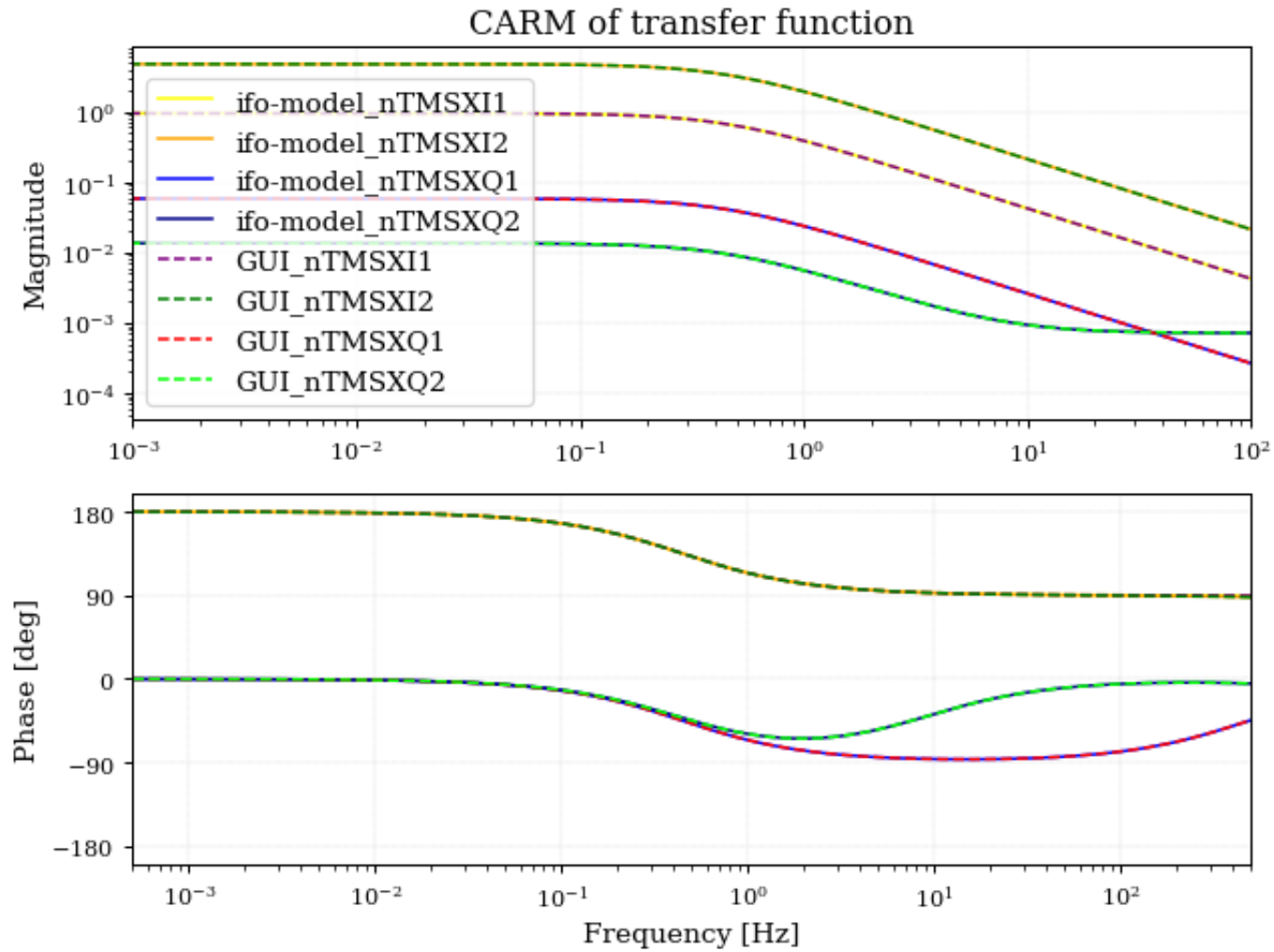
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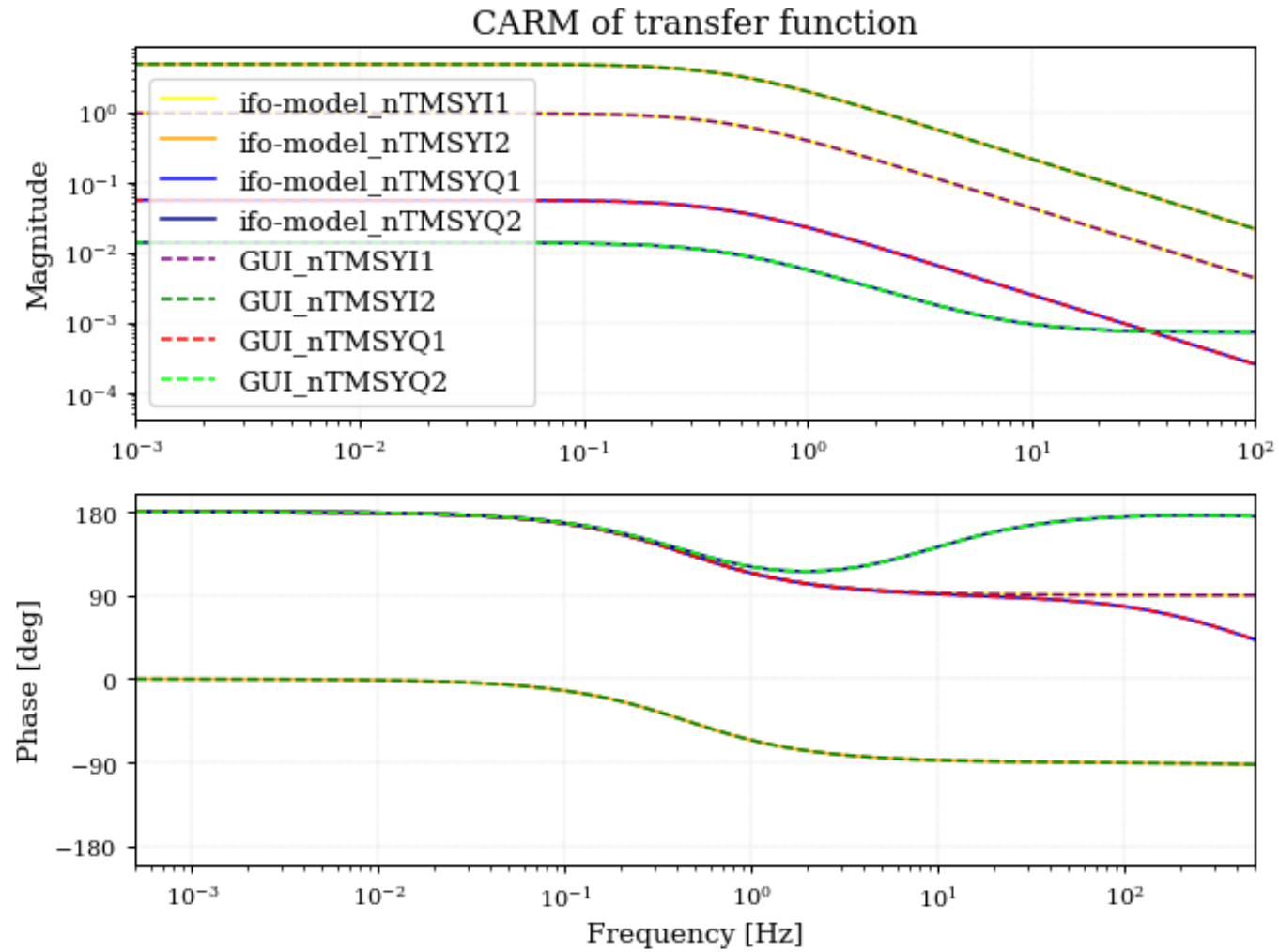
CARM_POS



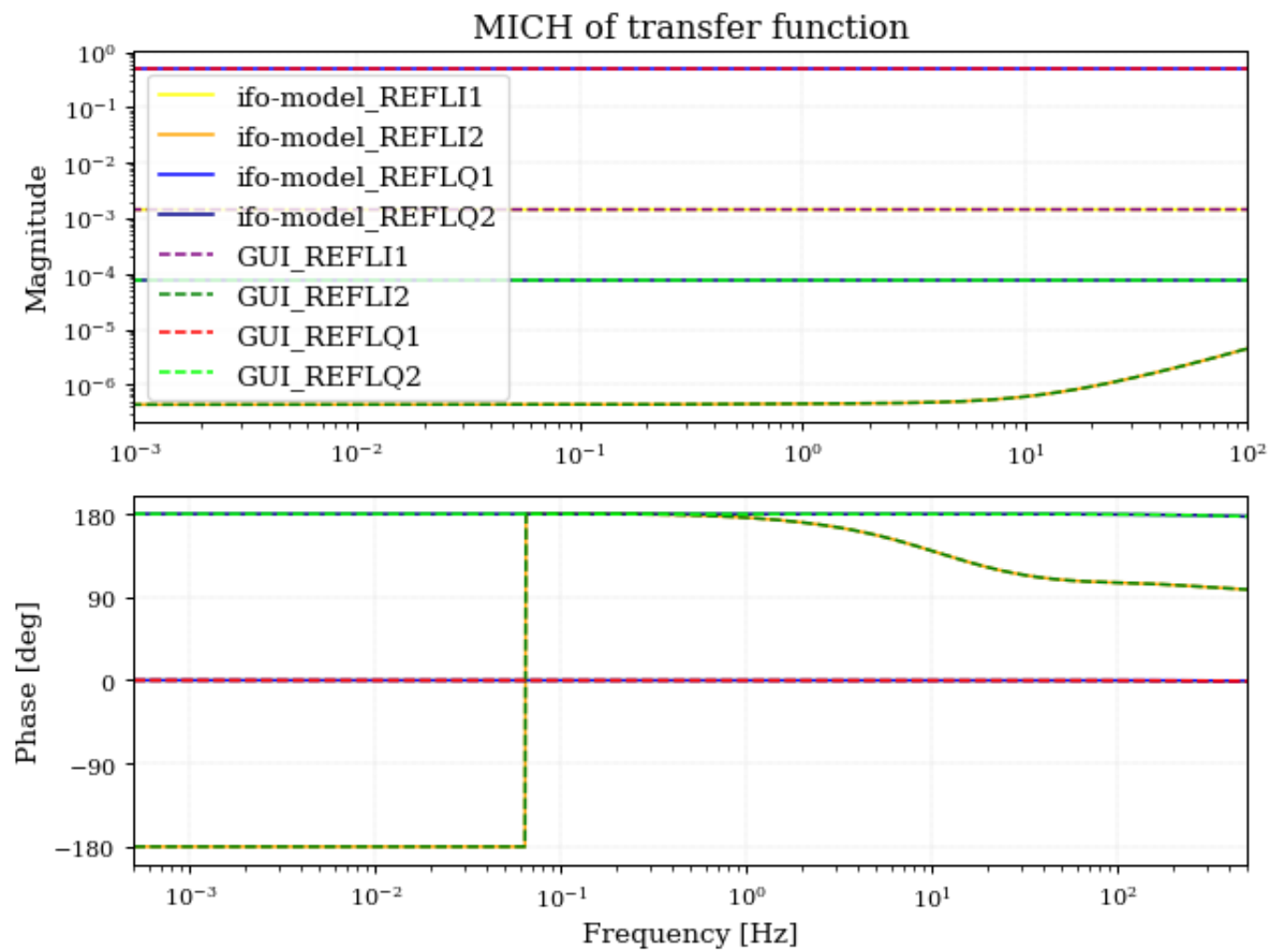
CARM_nTMSX



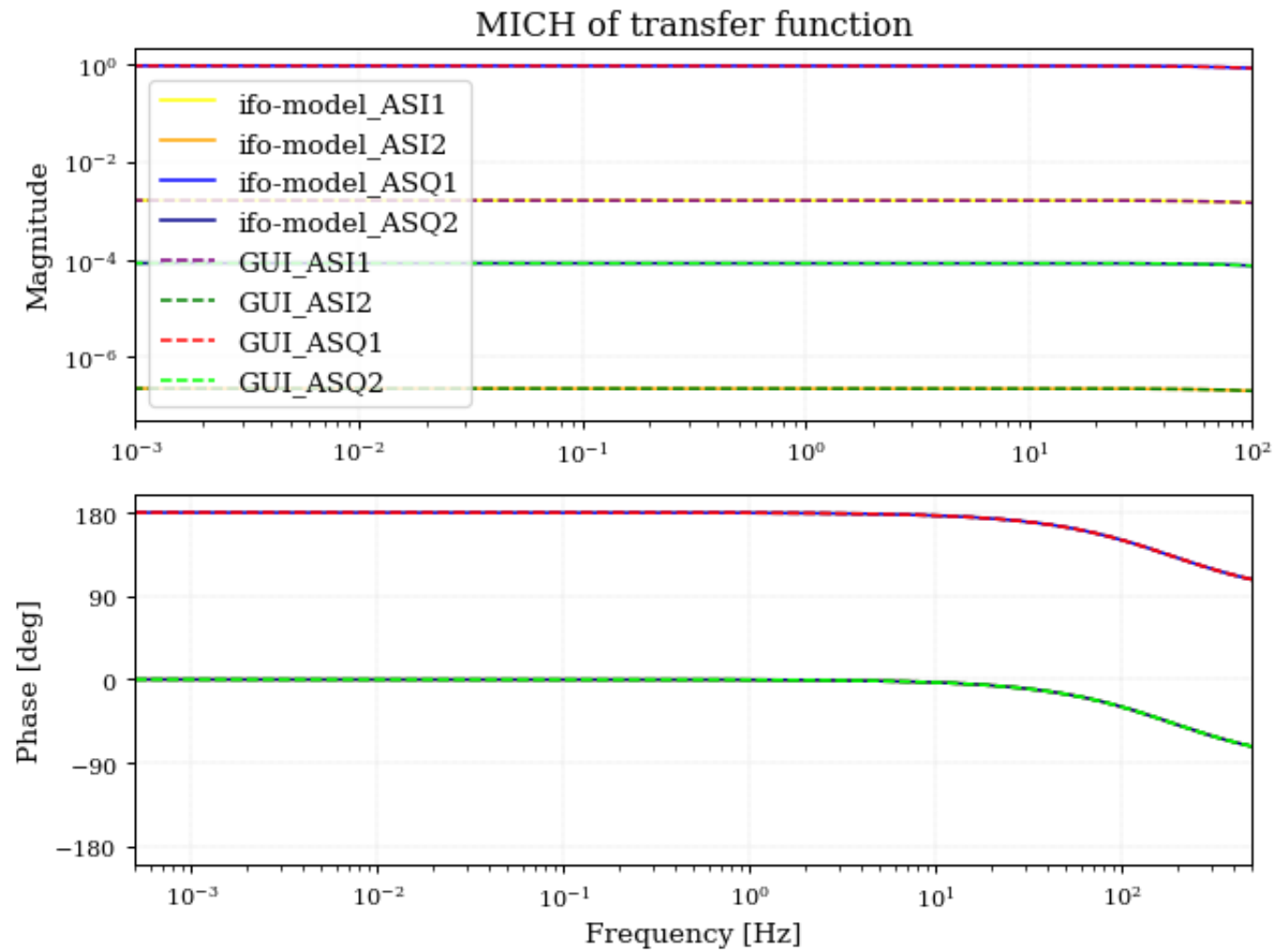
CARM_nTMSY



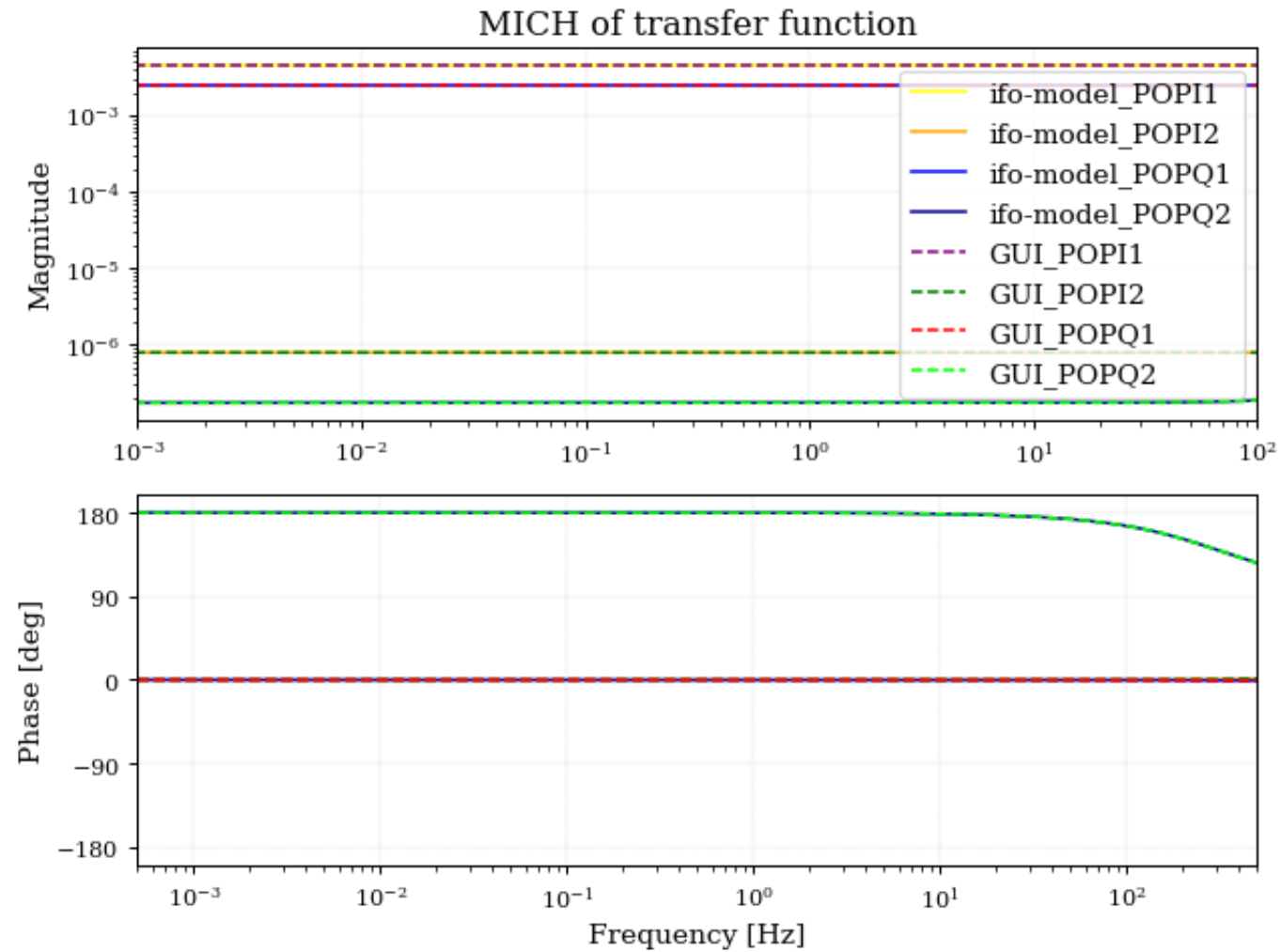
MICH_REFL



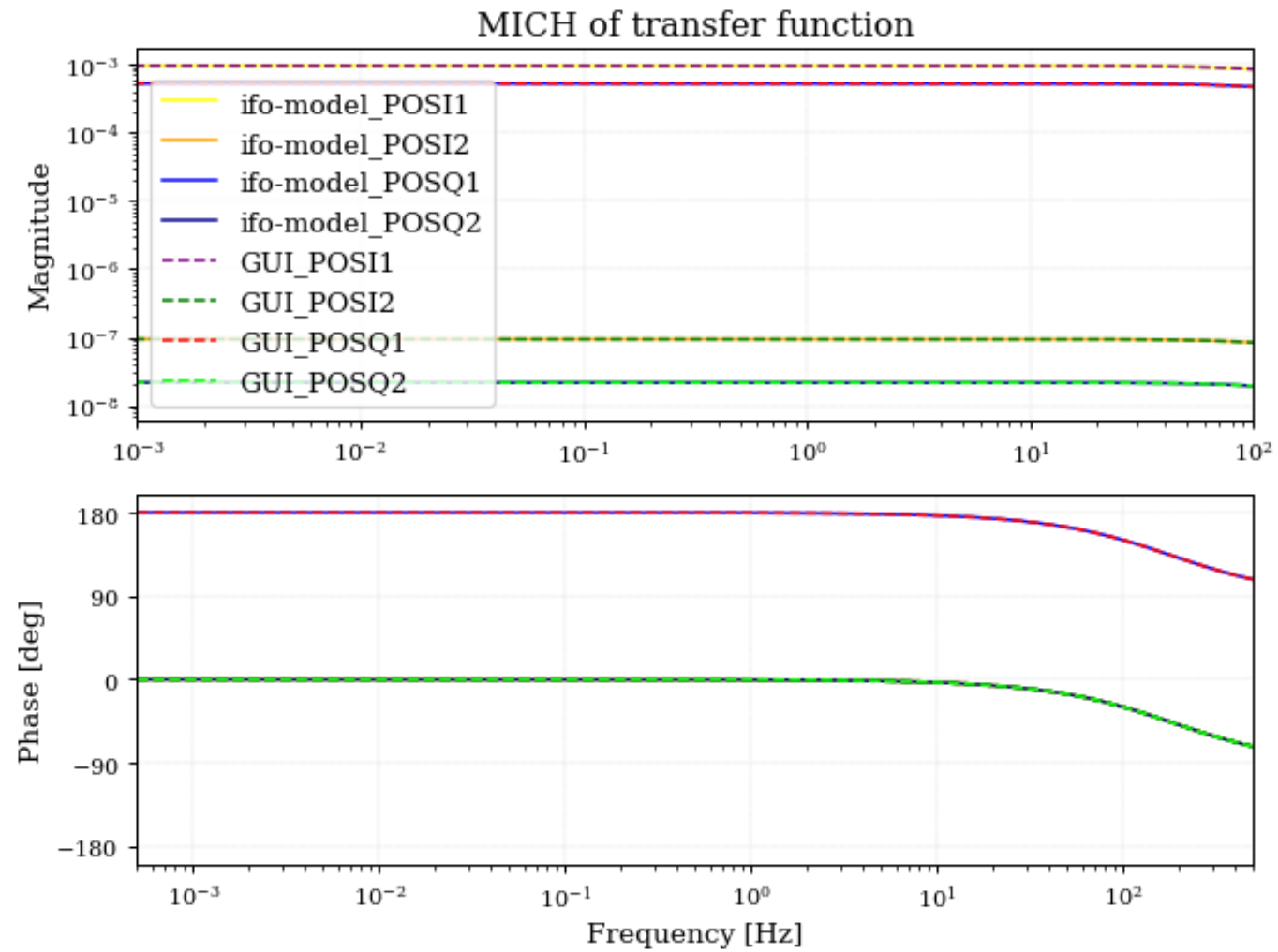
MICH_AS



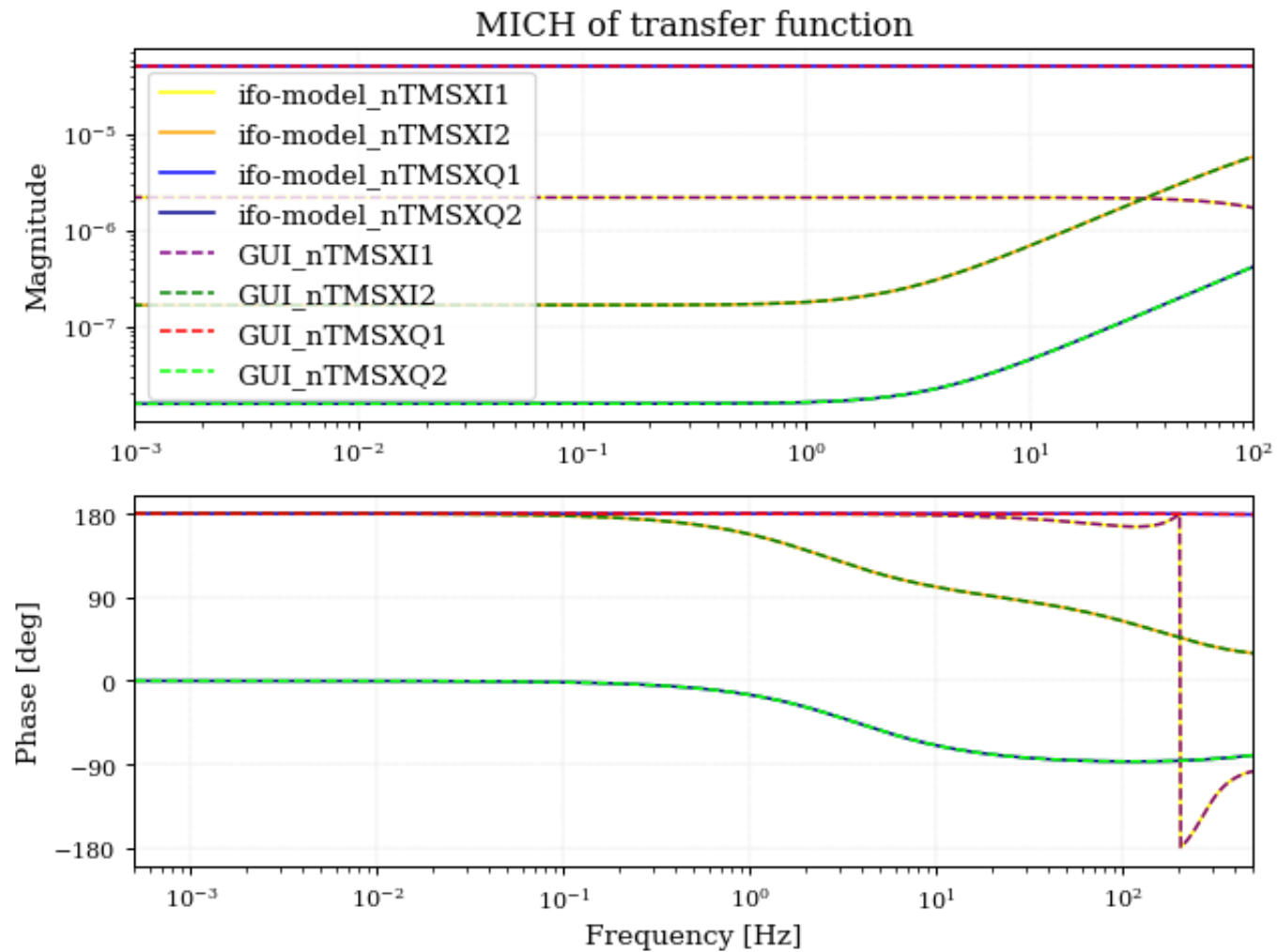
MICH_POP



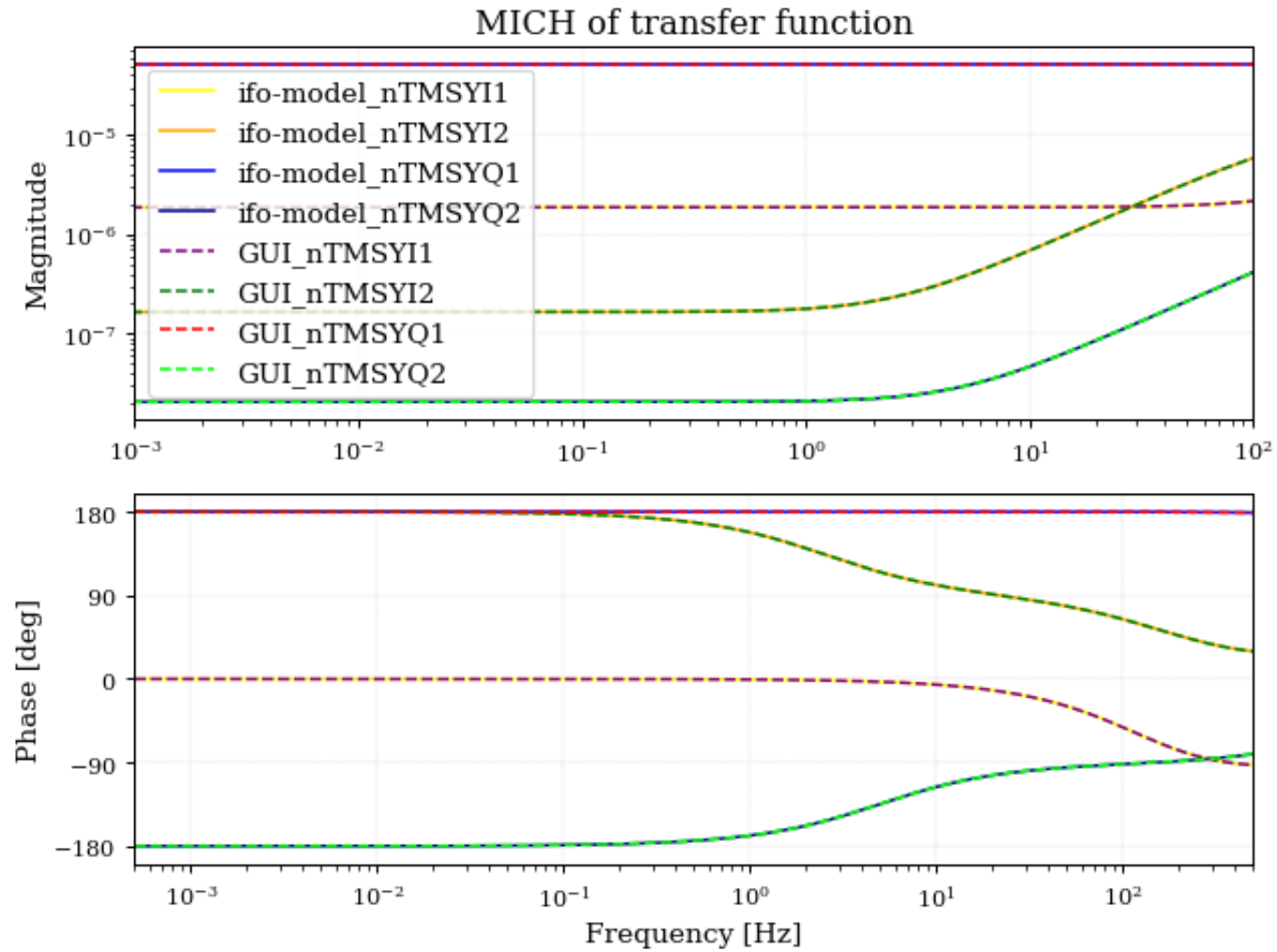
MICH_POS



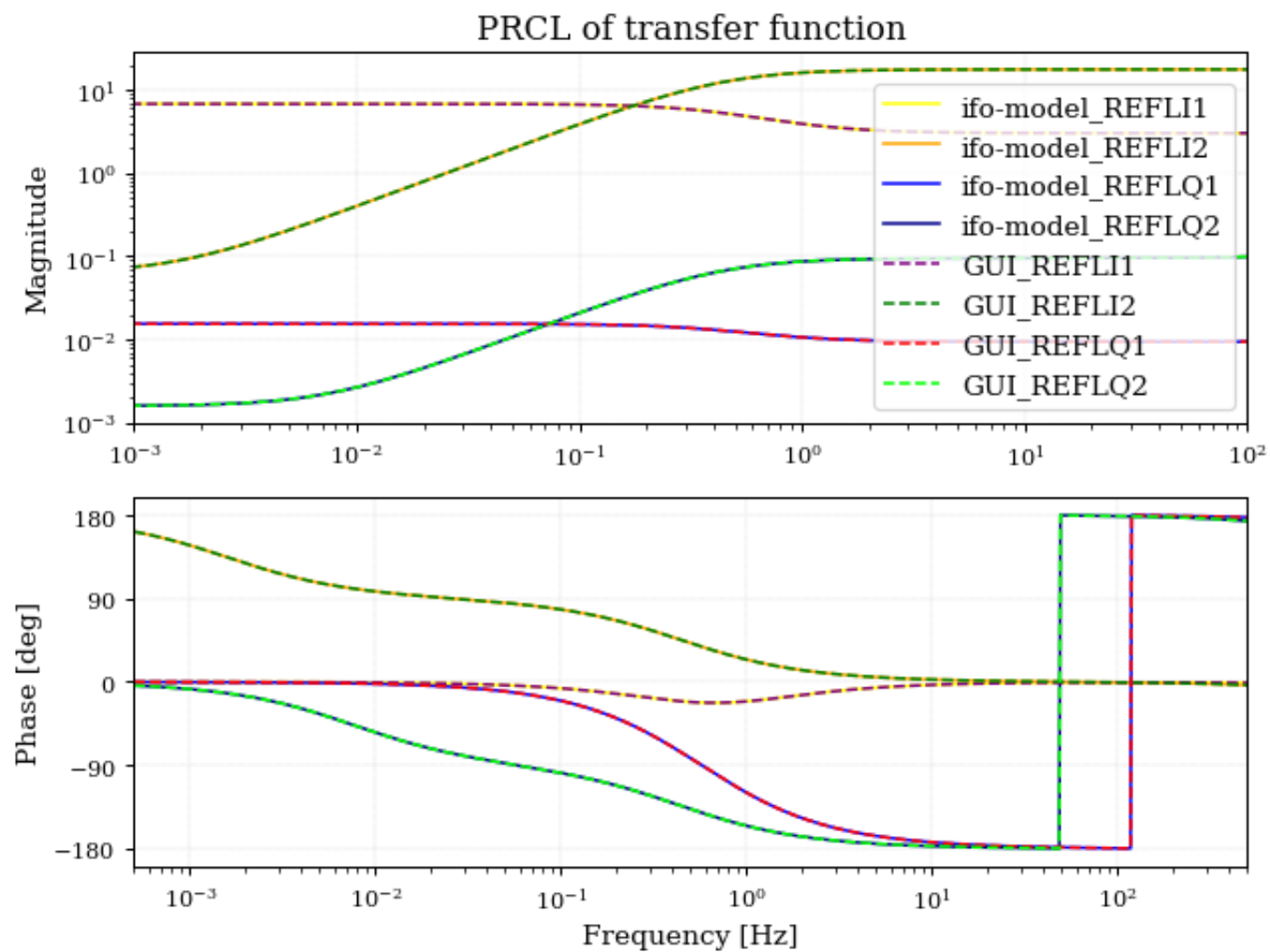
MICH_nTMSX



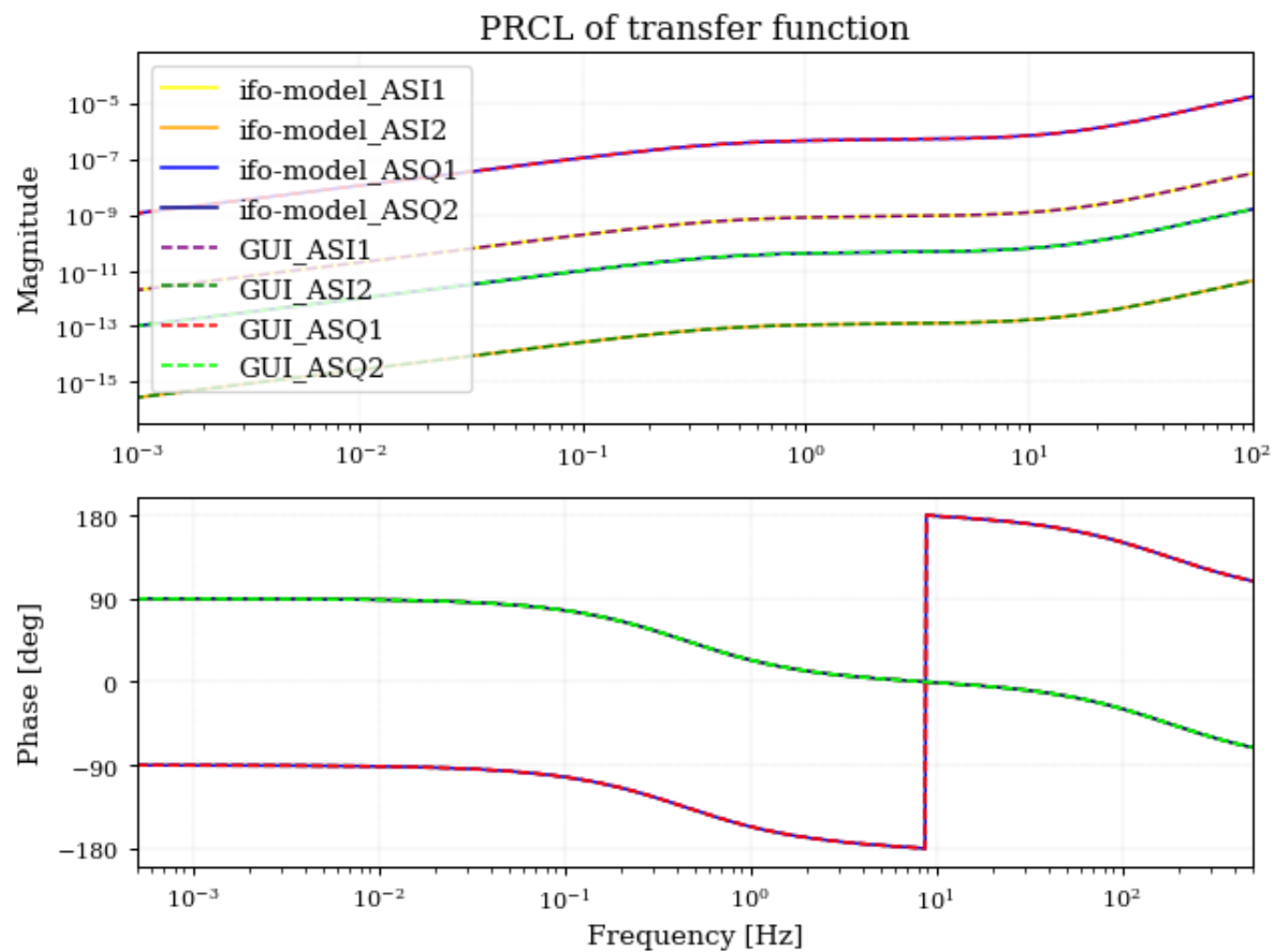
MICH_nTMSY



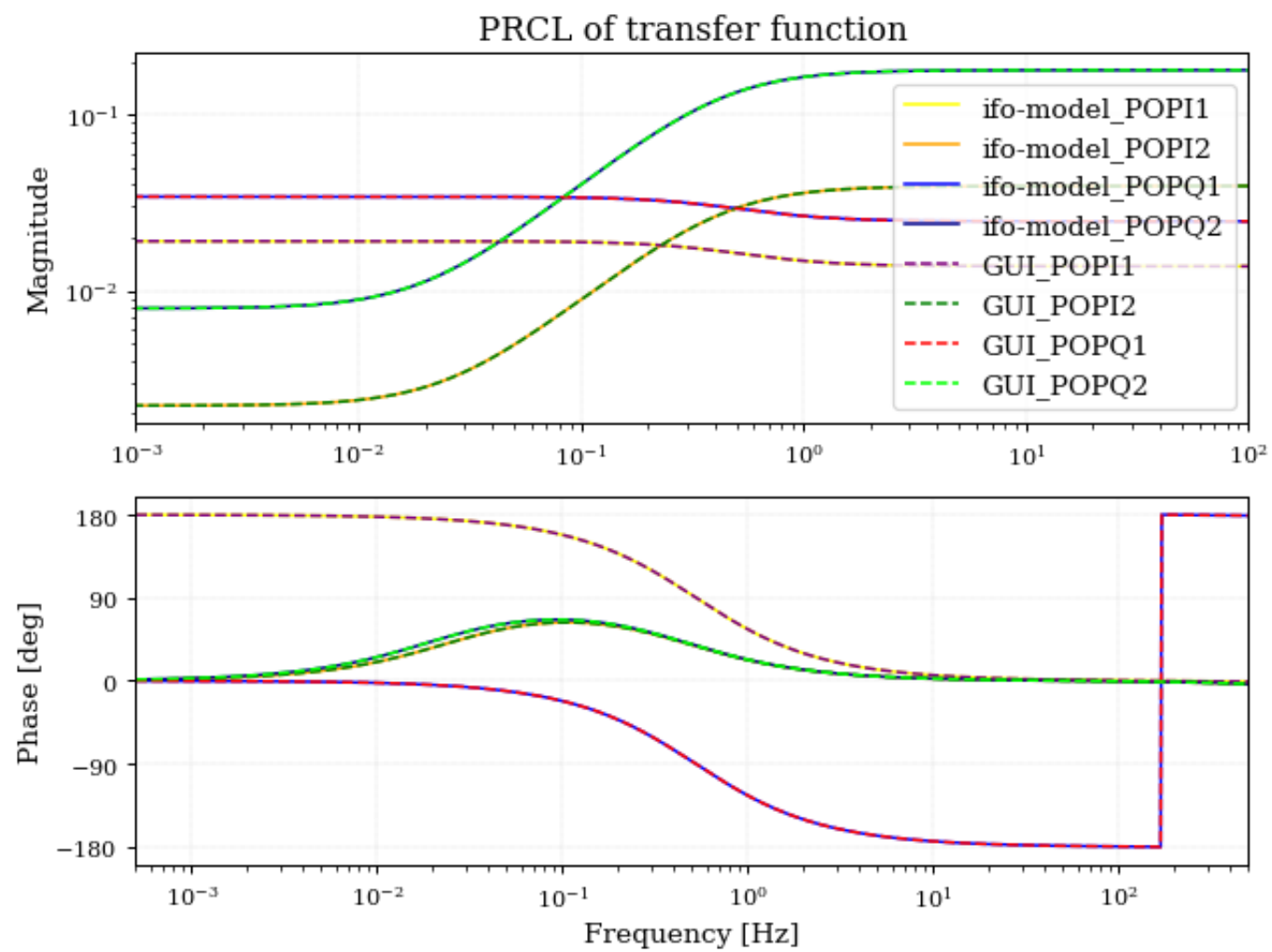
PRCL_REFL



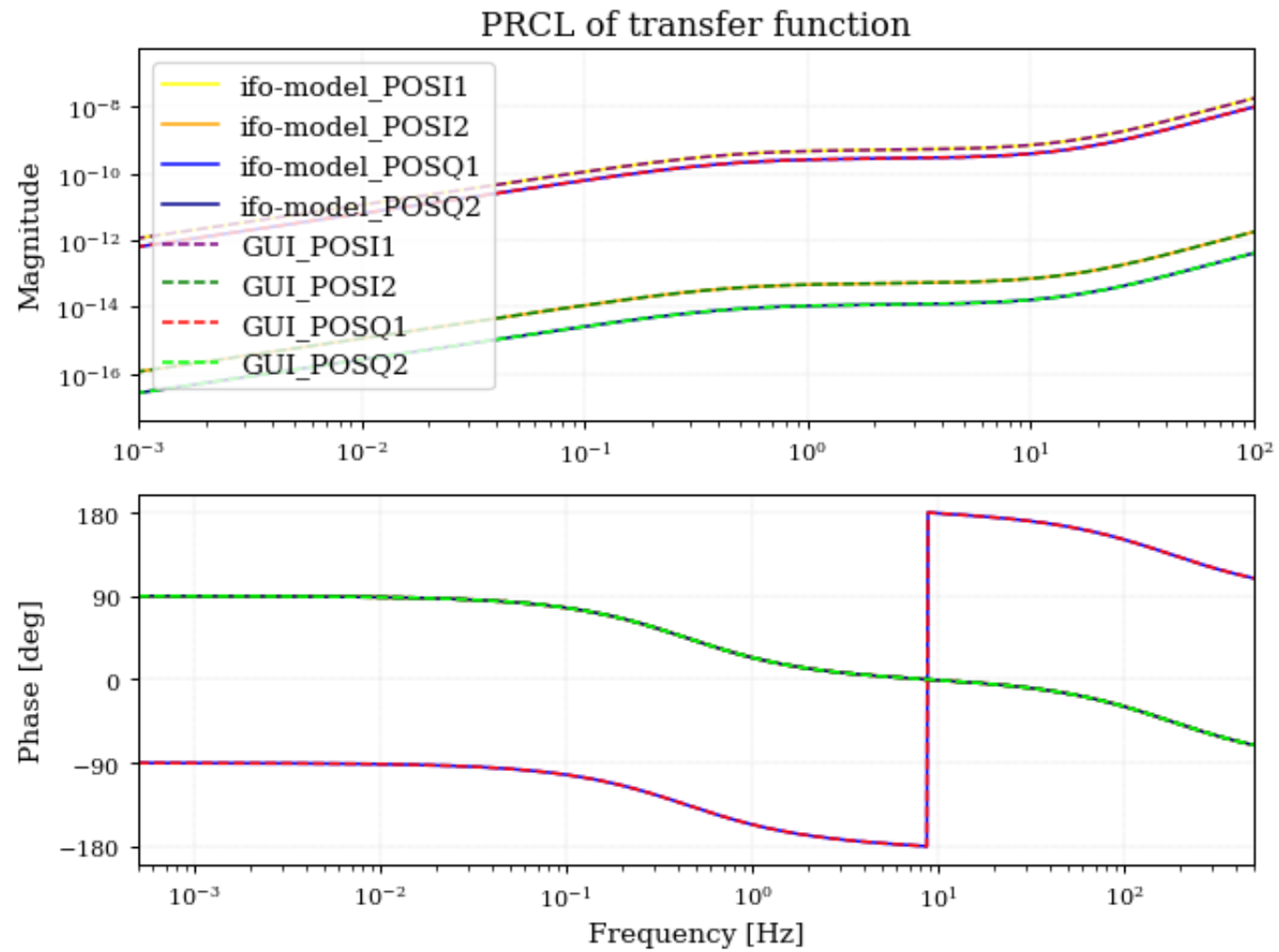
PRCL_AS



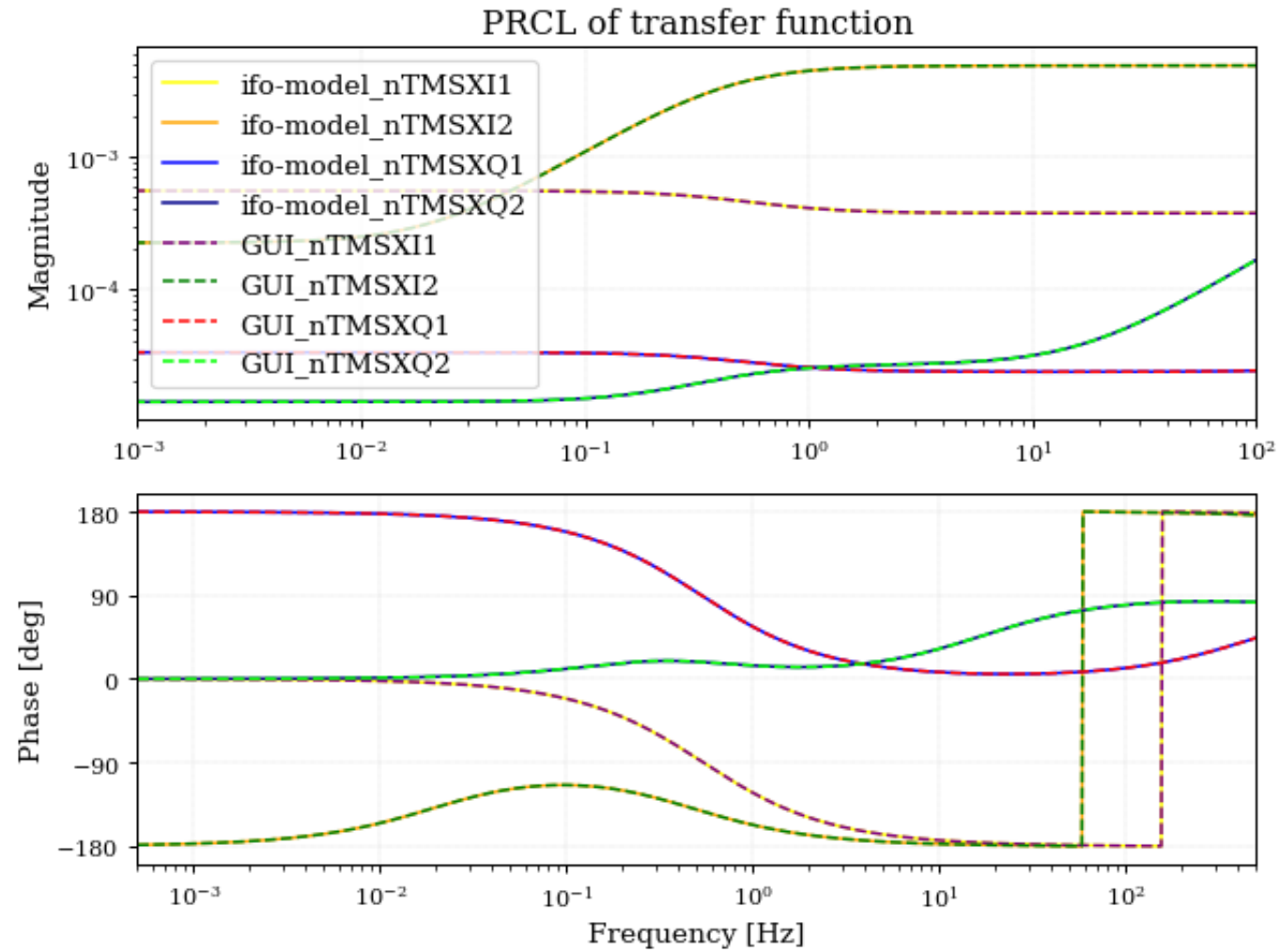
PRCL_POP



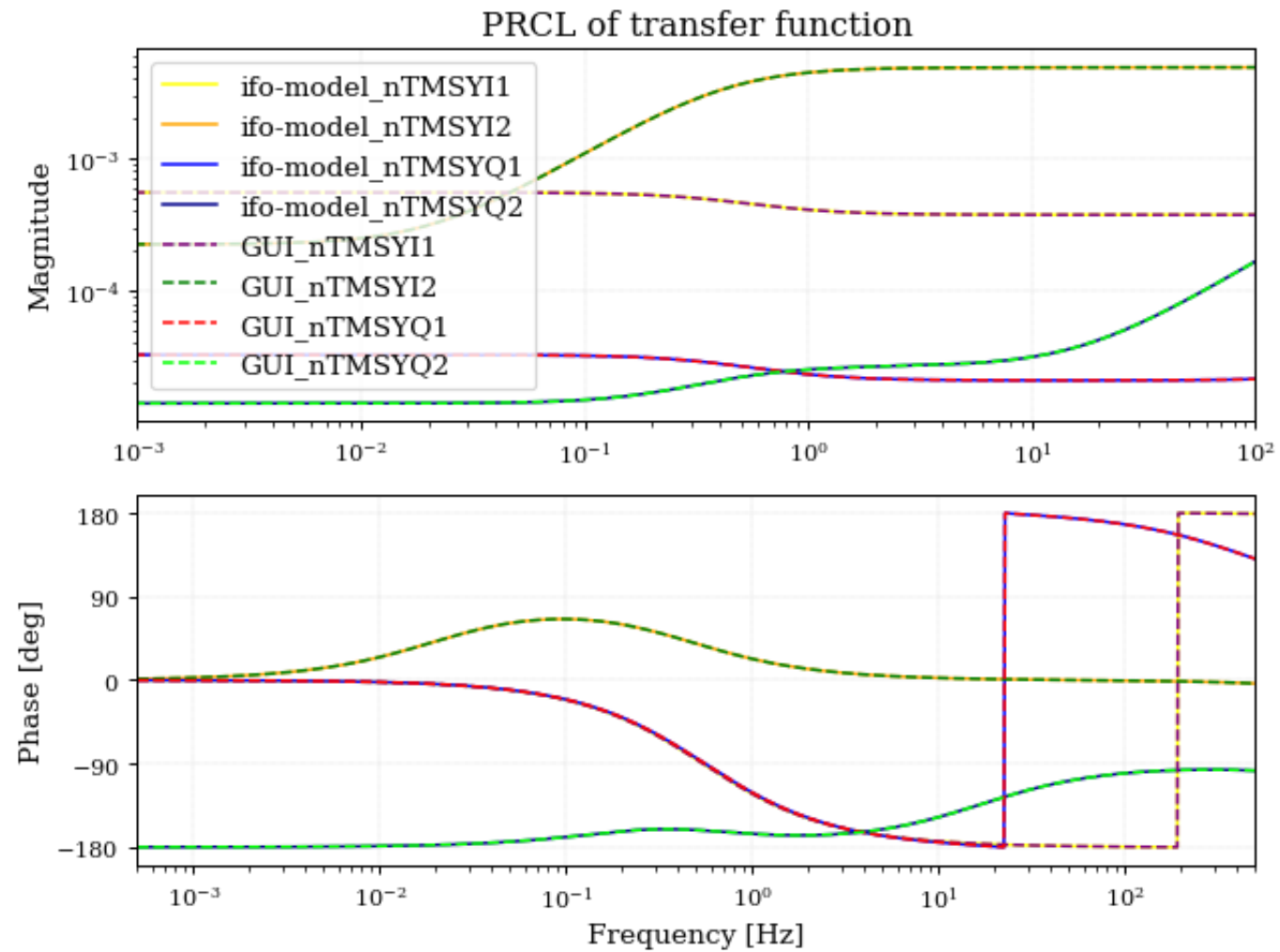
PRCL_POS



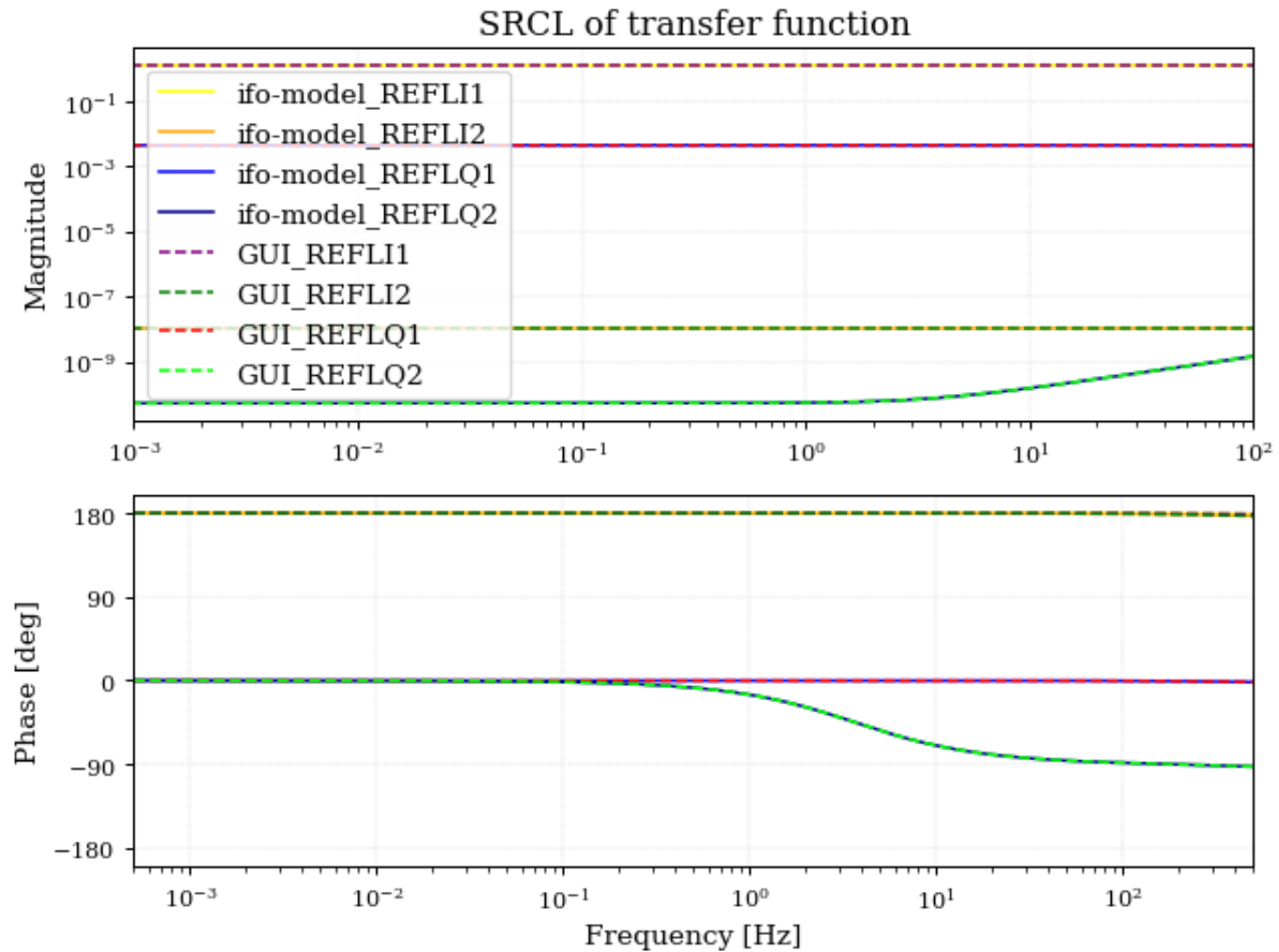
PRCL_nTMSX



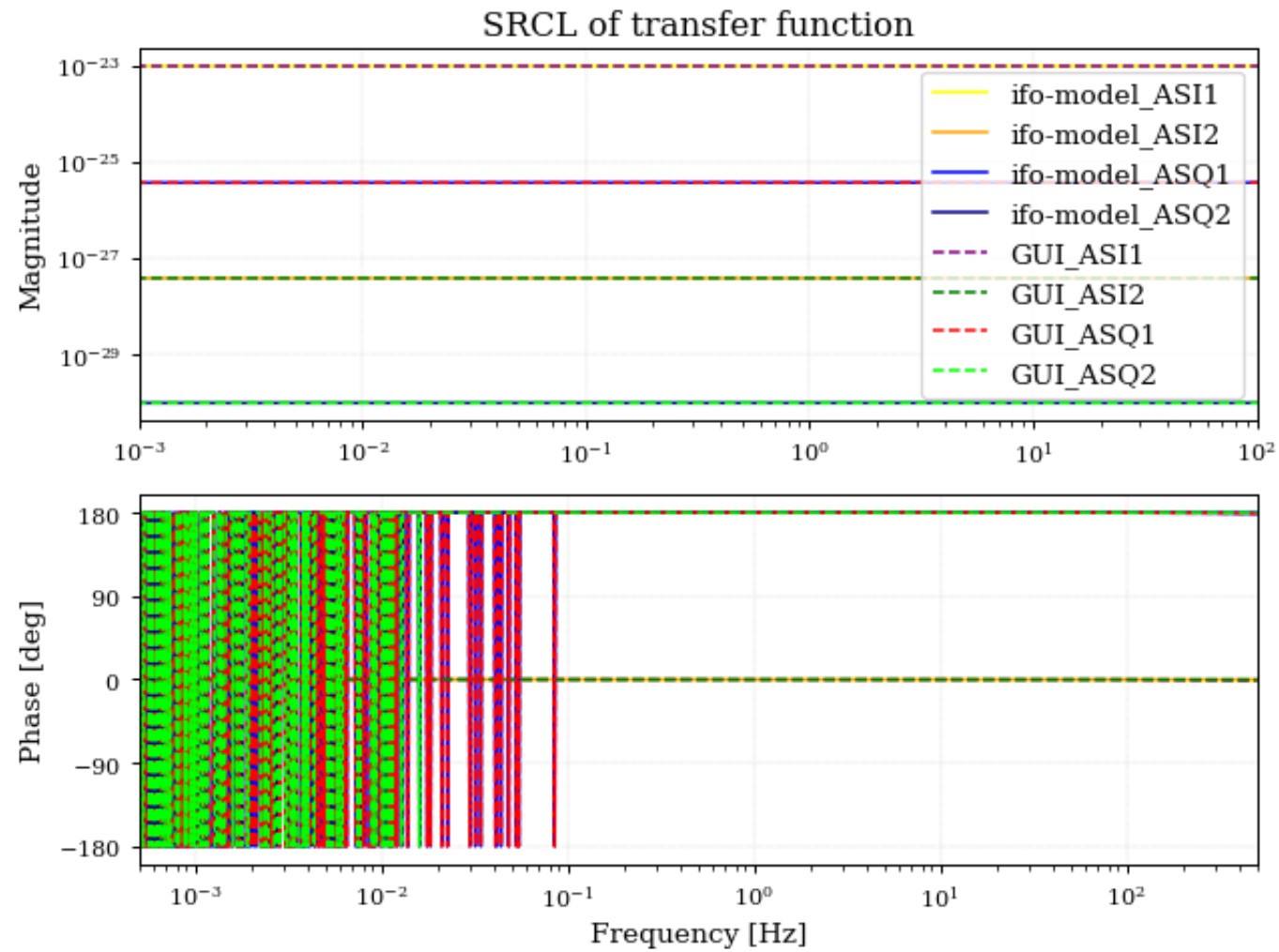
PRCL_nTMSY



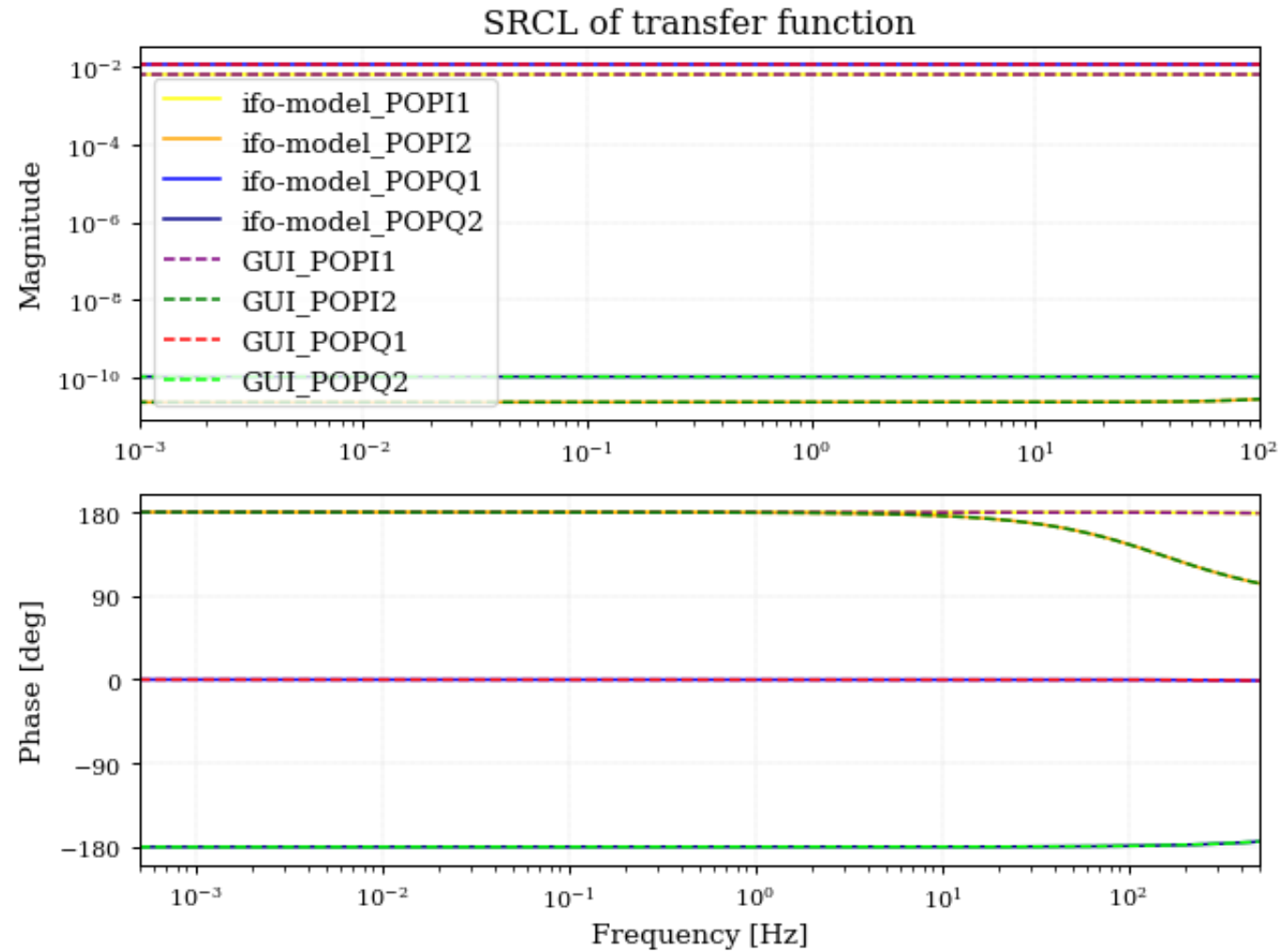
SRCL_REFL



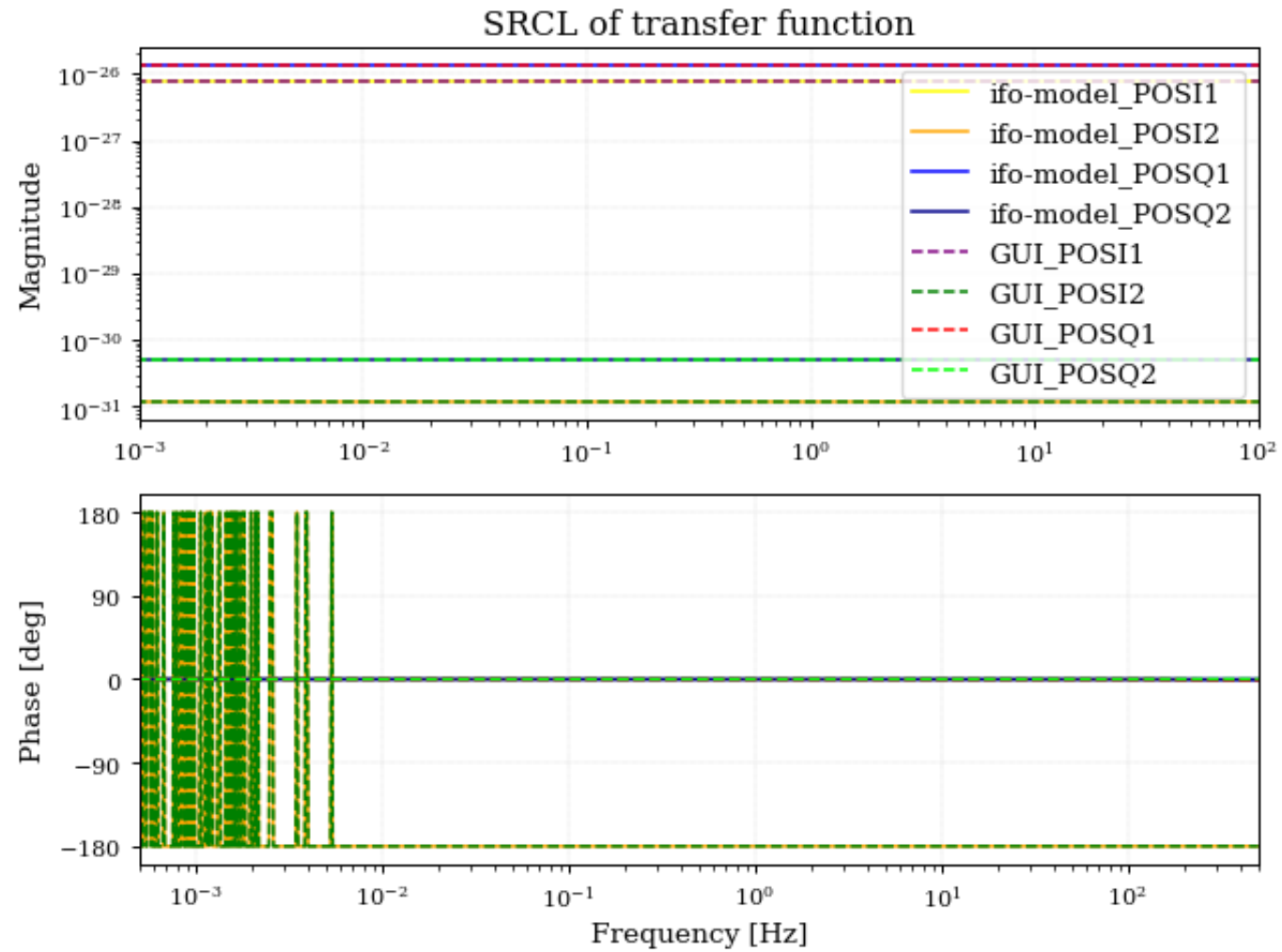
SRCL_AS



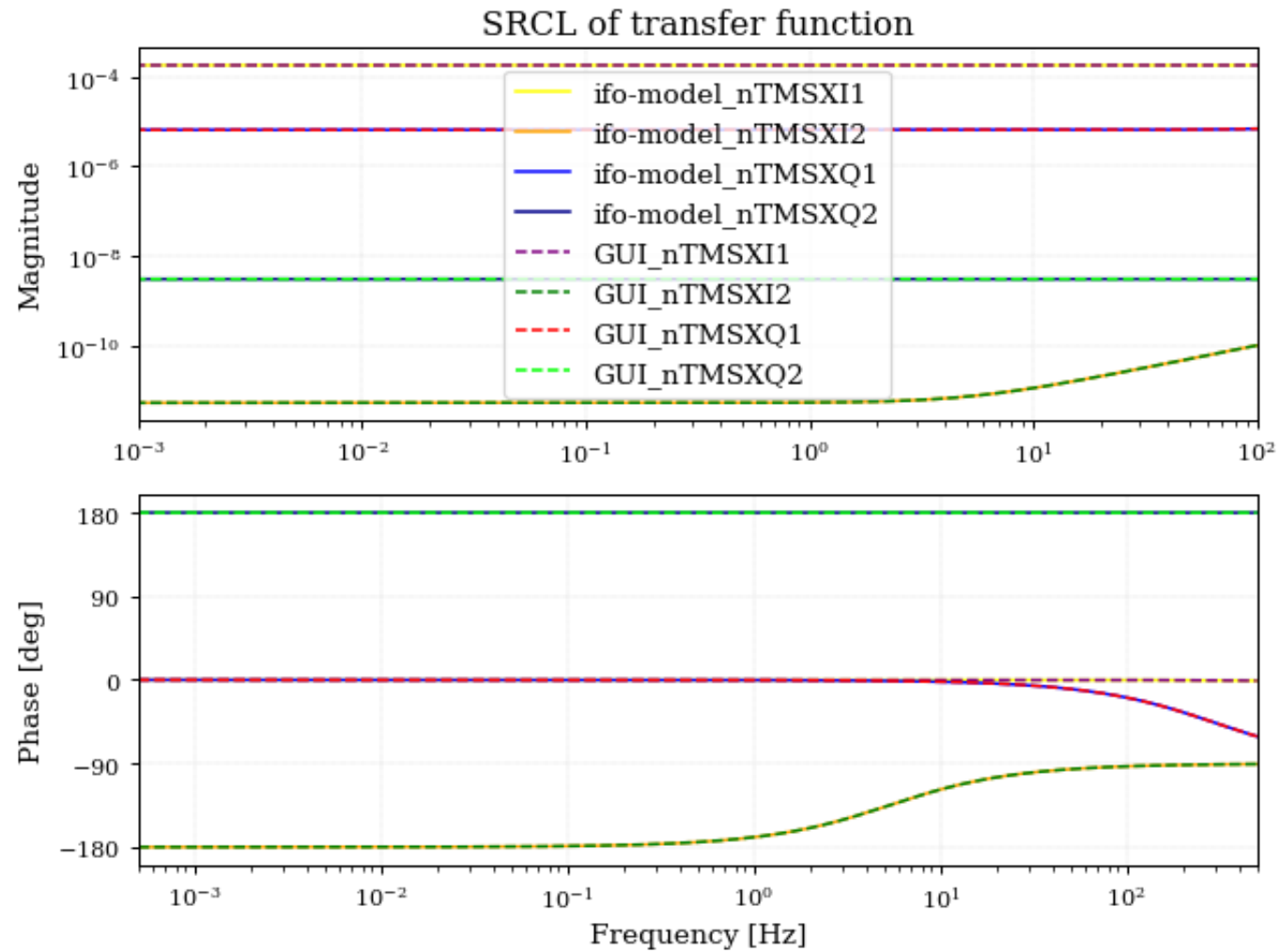
SRCL_POP



SRCL_POS



SRCL_nTMSX



SRCL_nTMSY

