Cross-check
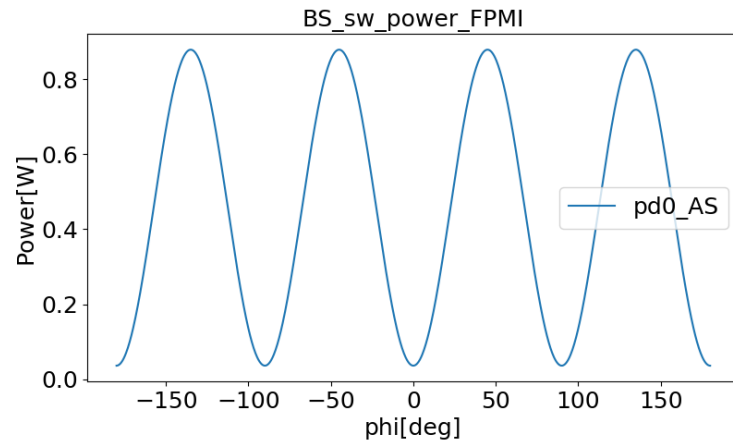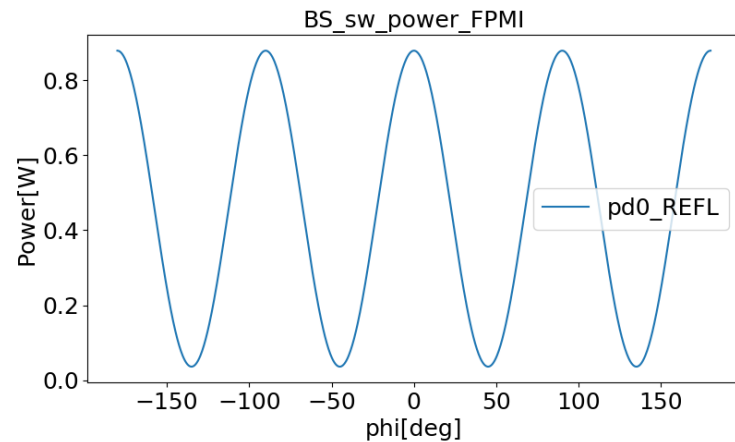# of "mifsim_gui"

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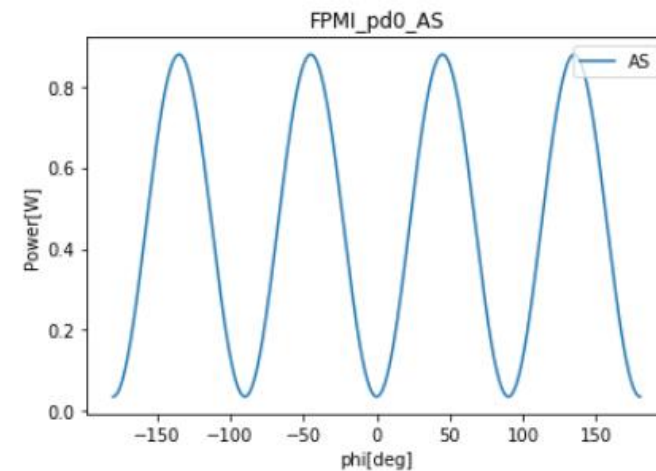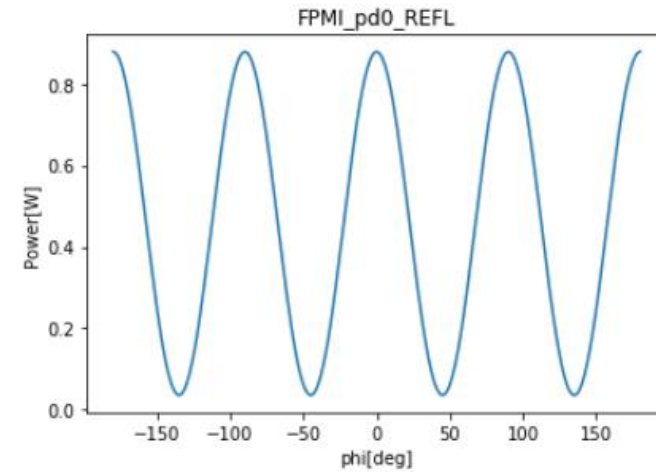https://github.com/kokeyama/gw-finesse/tree/master/ifo_models

Sweep

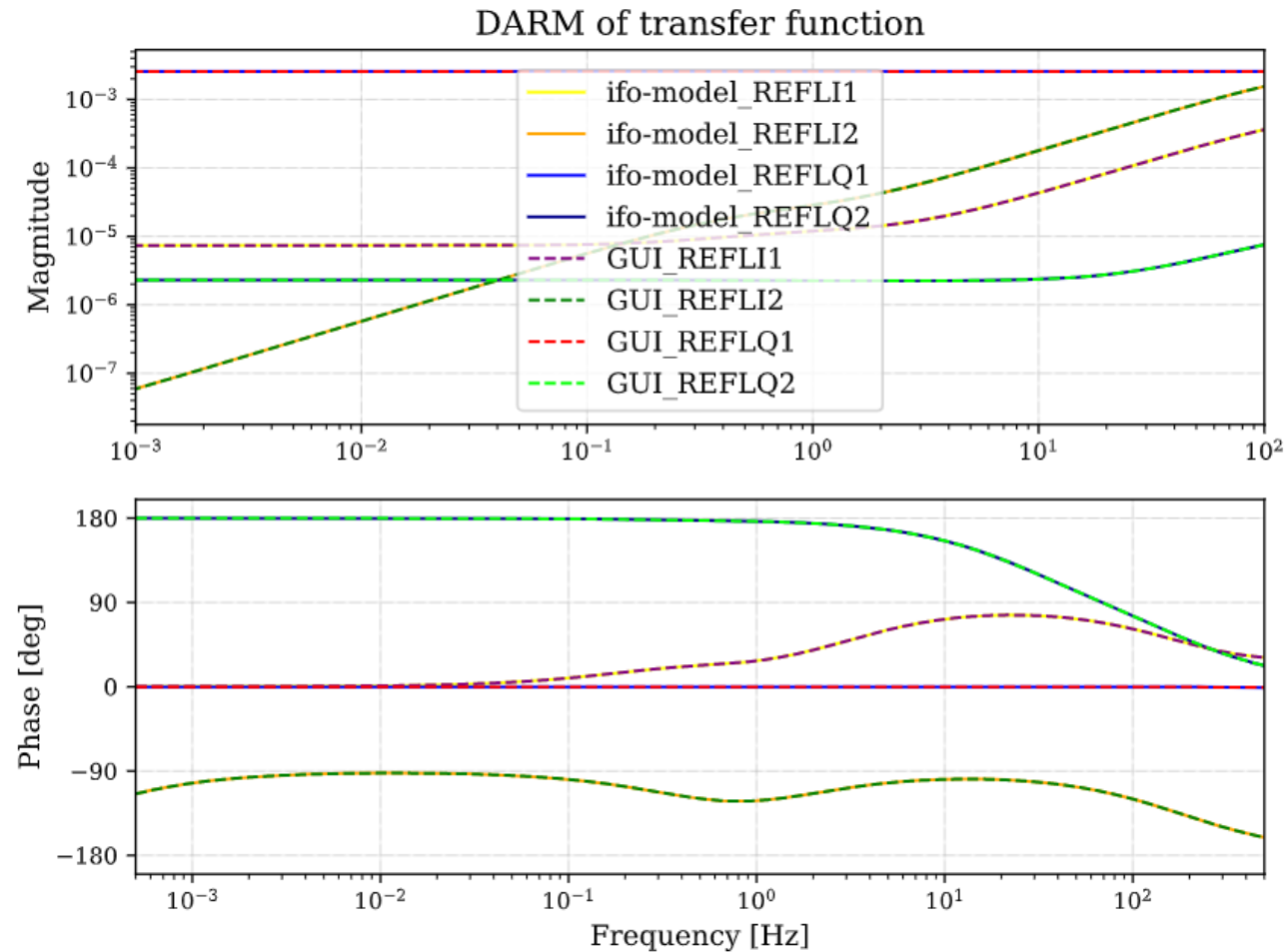E.g) Fabry perot Michelson interferometer, Power detector, BS, REFL and AS

mifsim_gui

Ifo-models

Transfer function

E.g) Dual Recyced Fabry Perot Michelson Interferometer,

Transfer function,

Demodulated signal (I1, Q1, I2, Q2), DARM, REFL

DARM of transfer function

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)

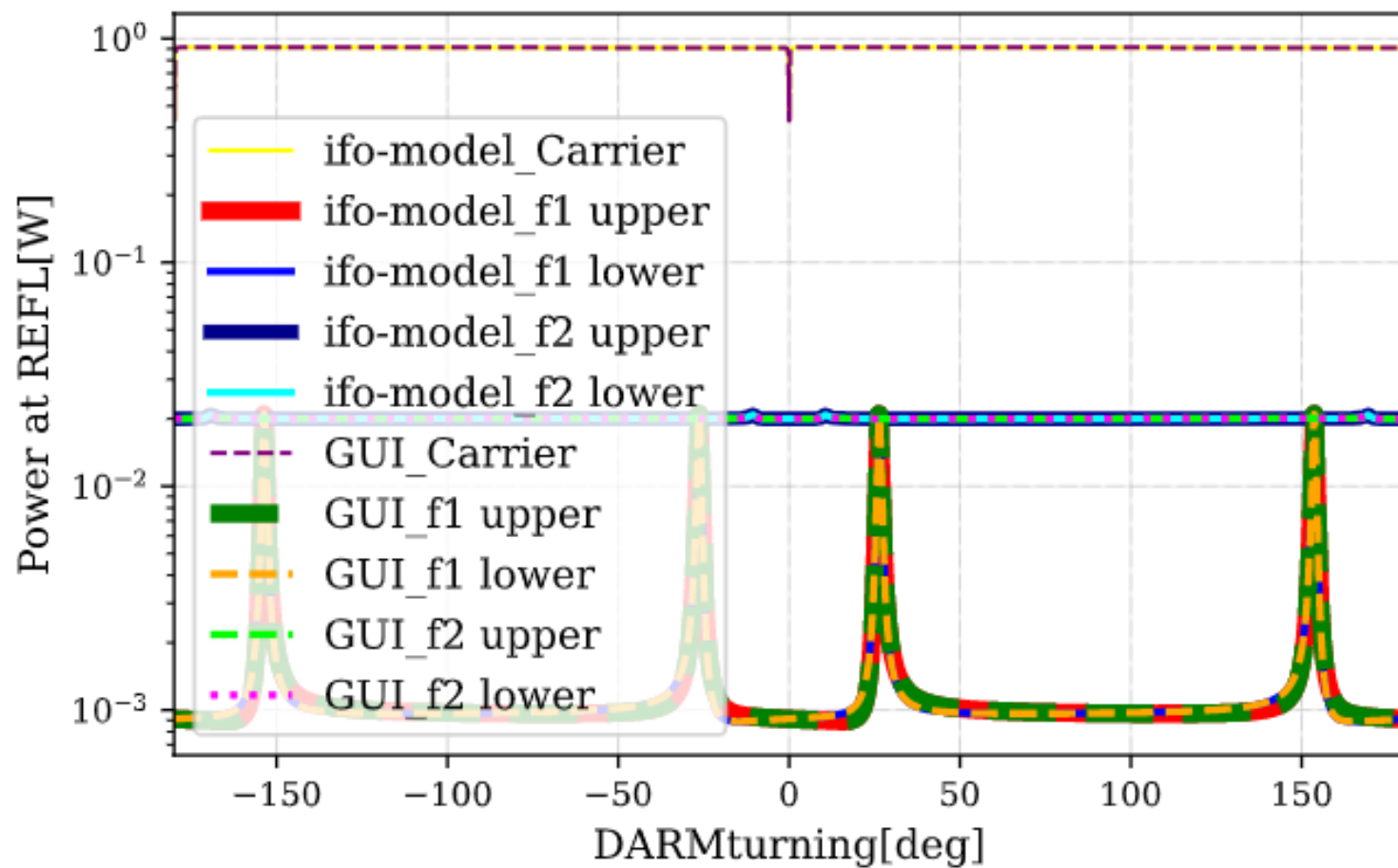   Transfer function(Demodulated signal)

Cross Check of DRFPMI_sweep

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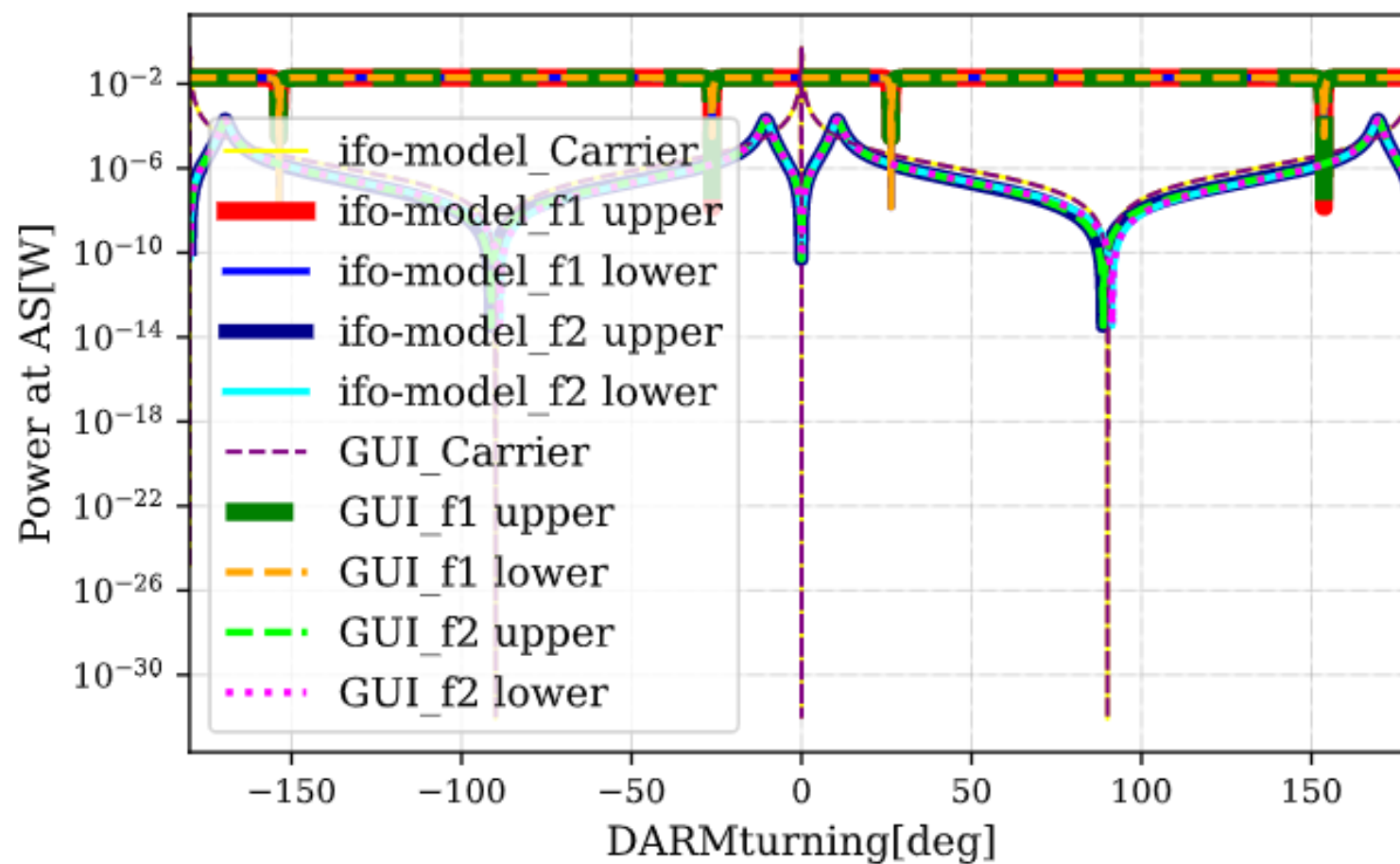・DoF: DARM, CARM, MICH, PRCL, SRCL
・Nod: REFL, AS, POP, POS, nTMSX, nTMSY

Page number

DRFPMI	REFL	AS	POP	POS	nTMSX	nTMSY
DARM	7	8	9	10	11	12
CARM	13	14	15	16	17	18
MICH	19	20	21	22	23	24
PRCL	25	26	27	28	29	30
SRPL	31	32	33	34	35	36

DARM_REFL
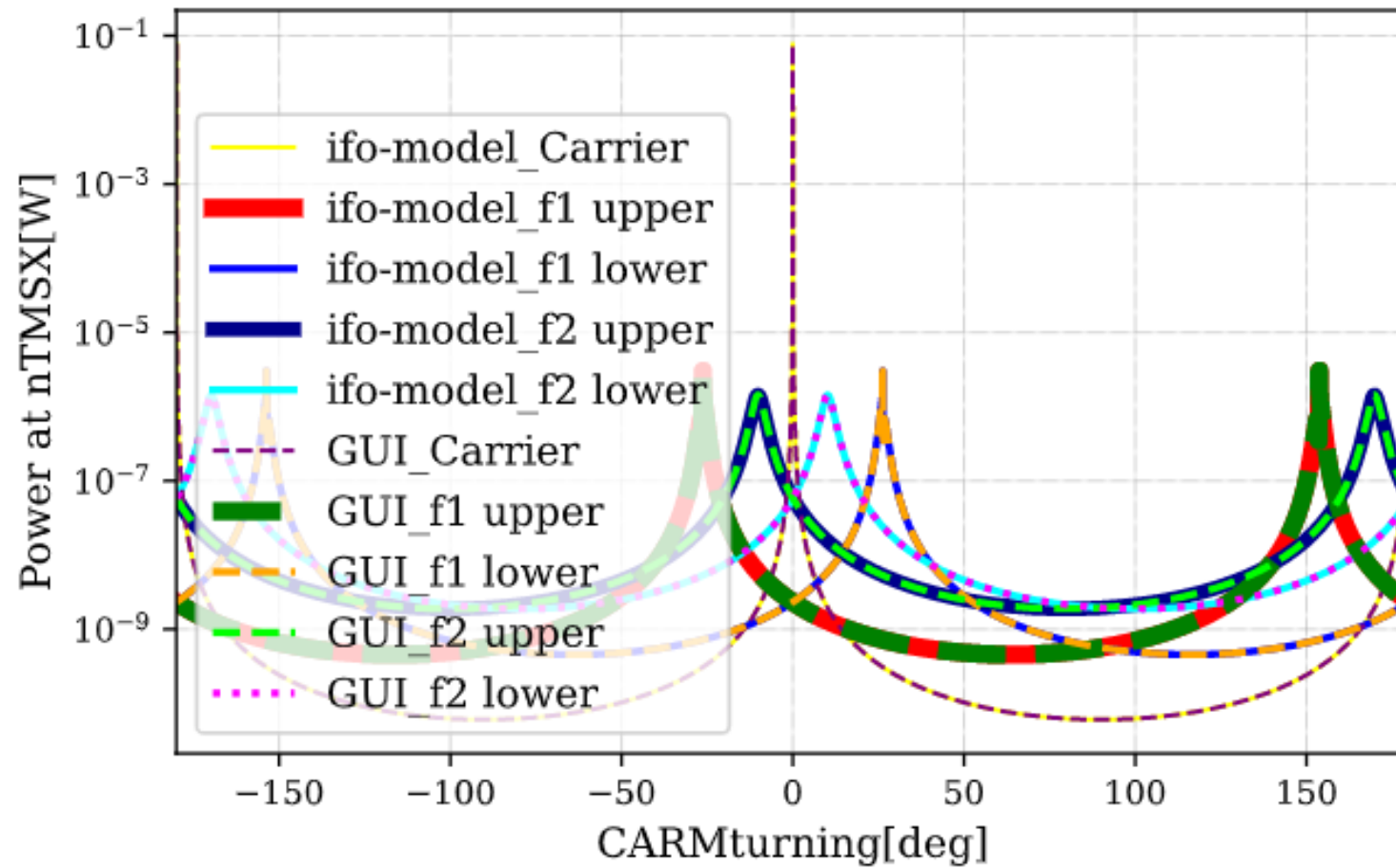
DARM_AS

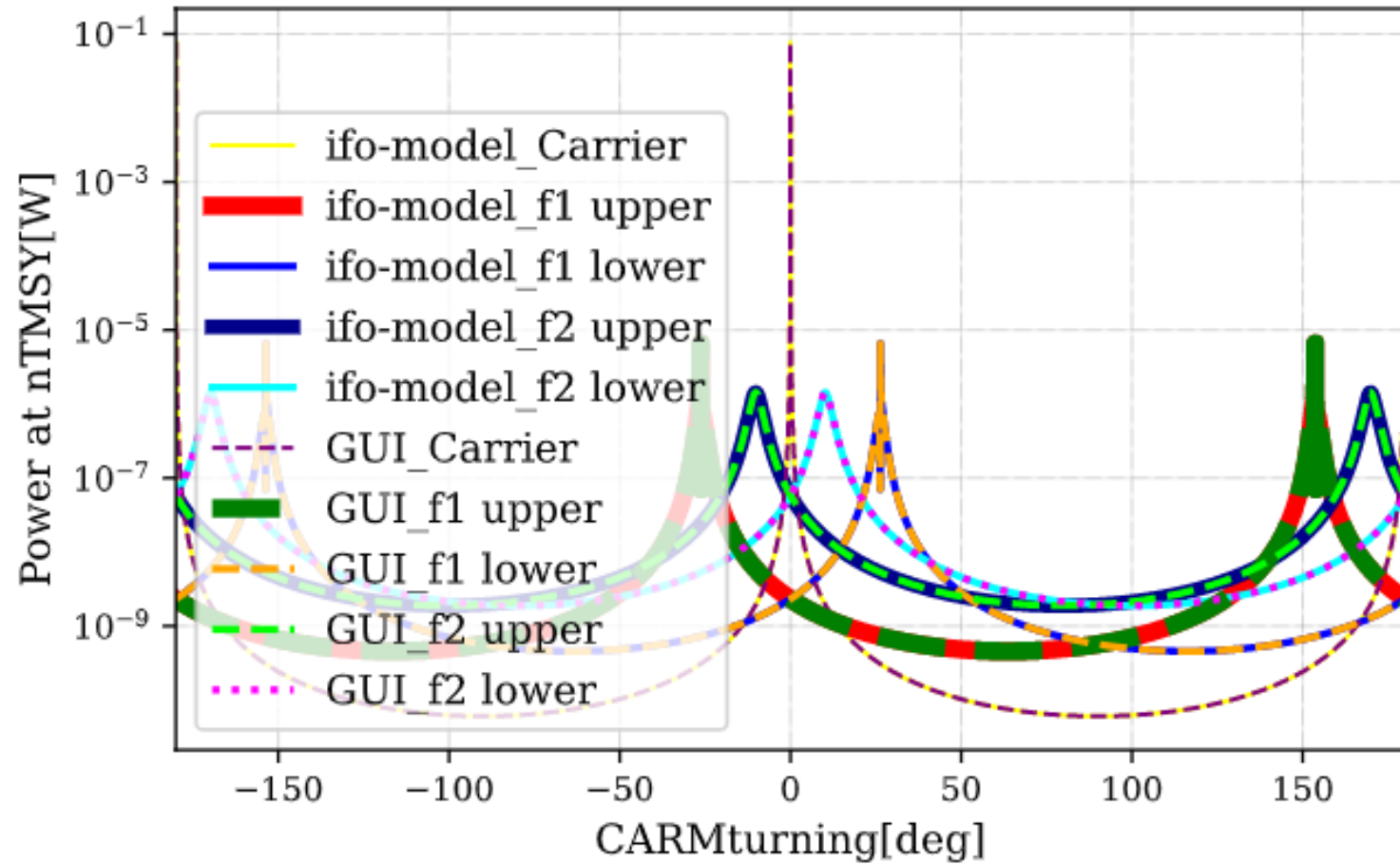# DARM_POP
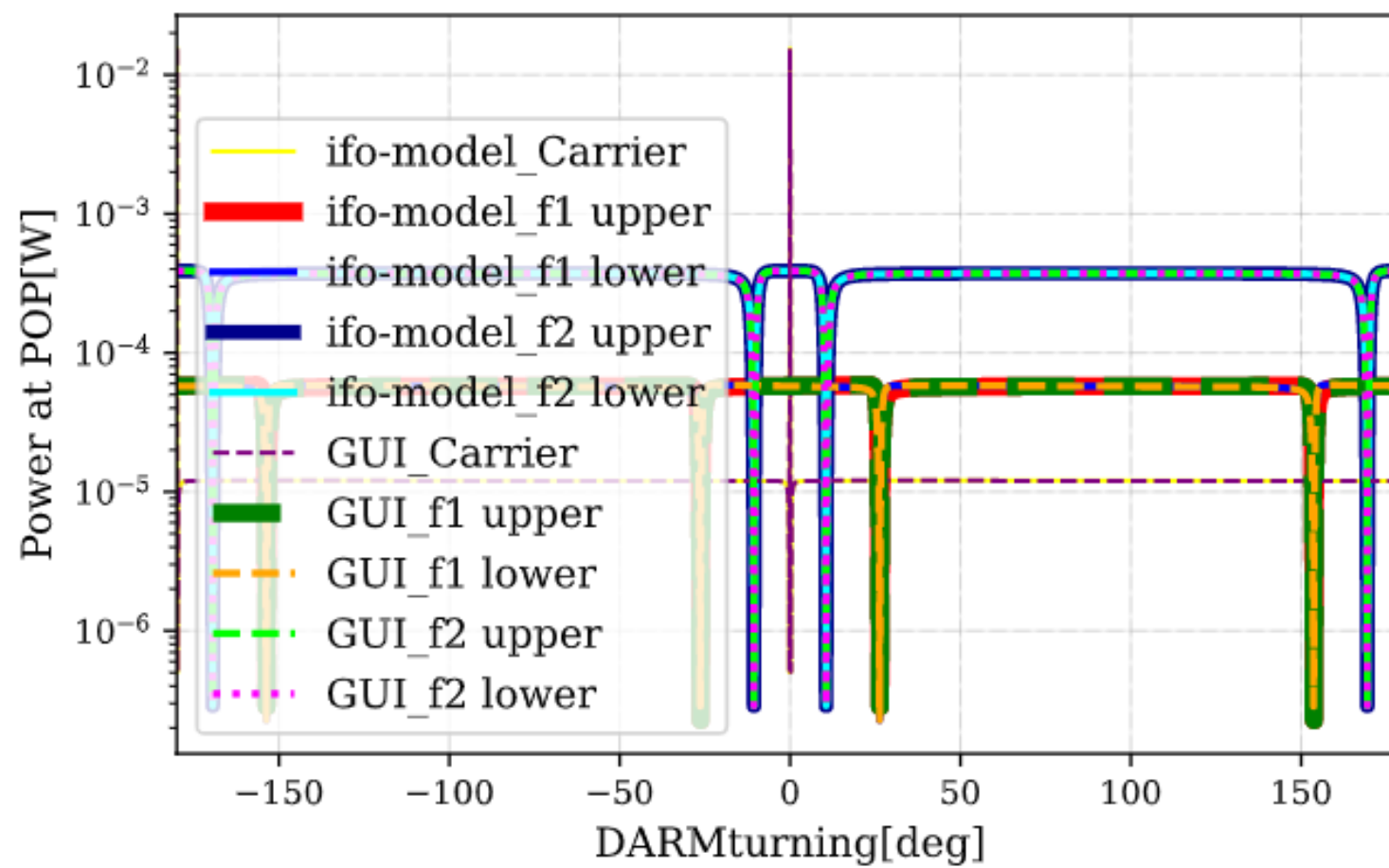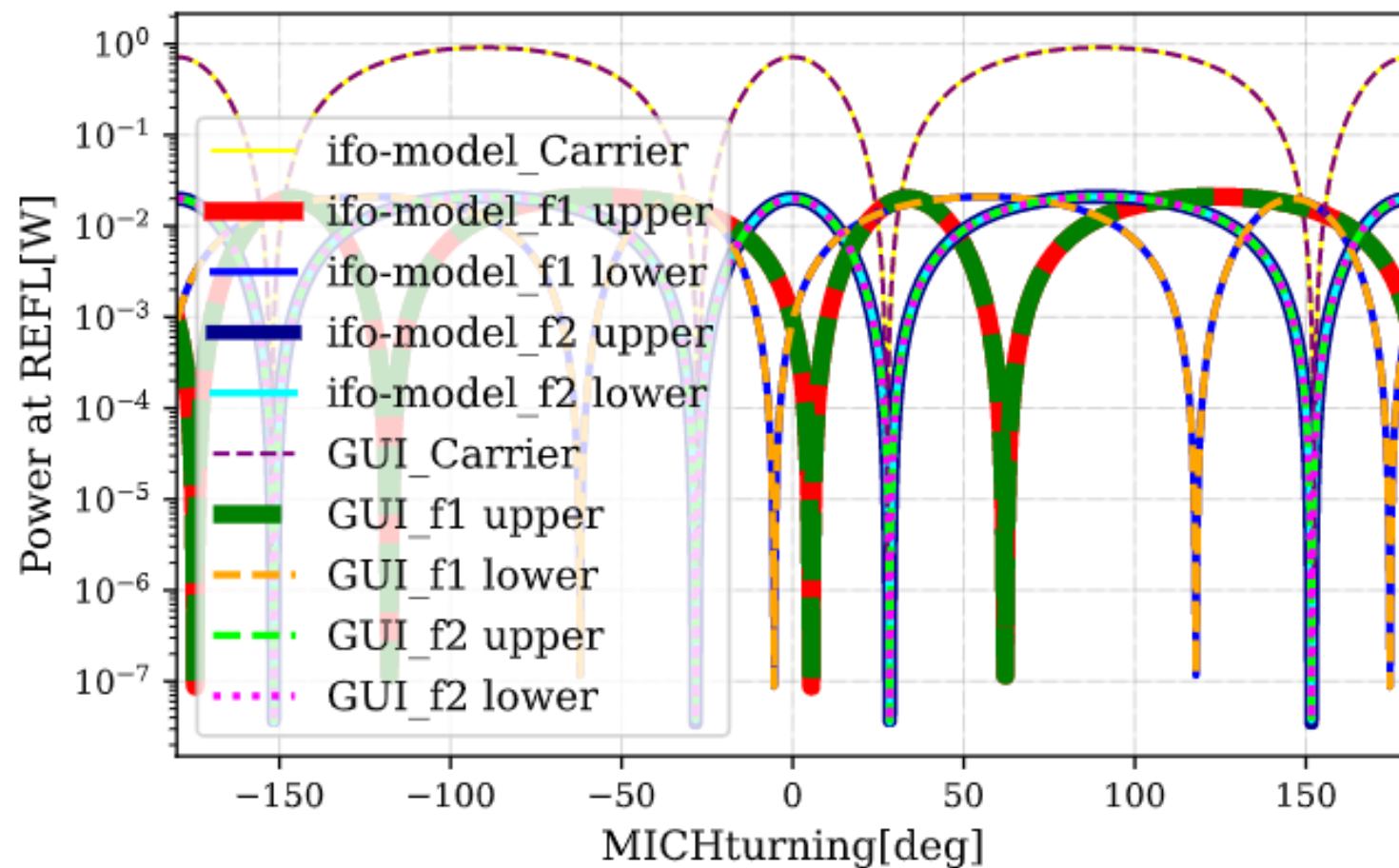
DARM_POS
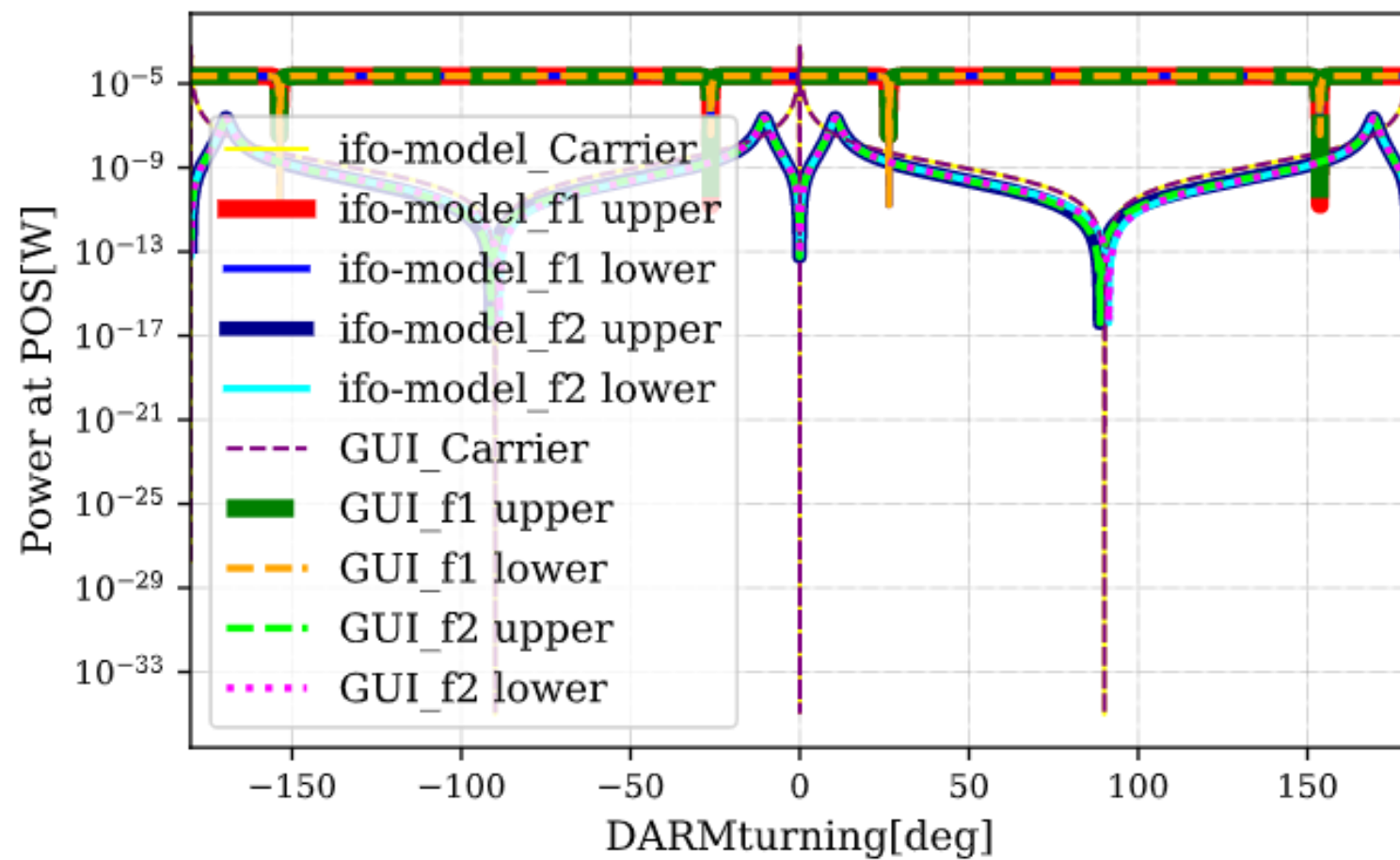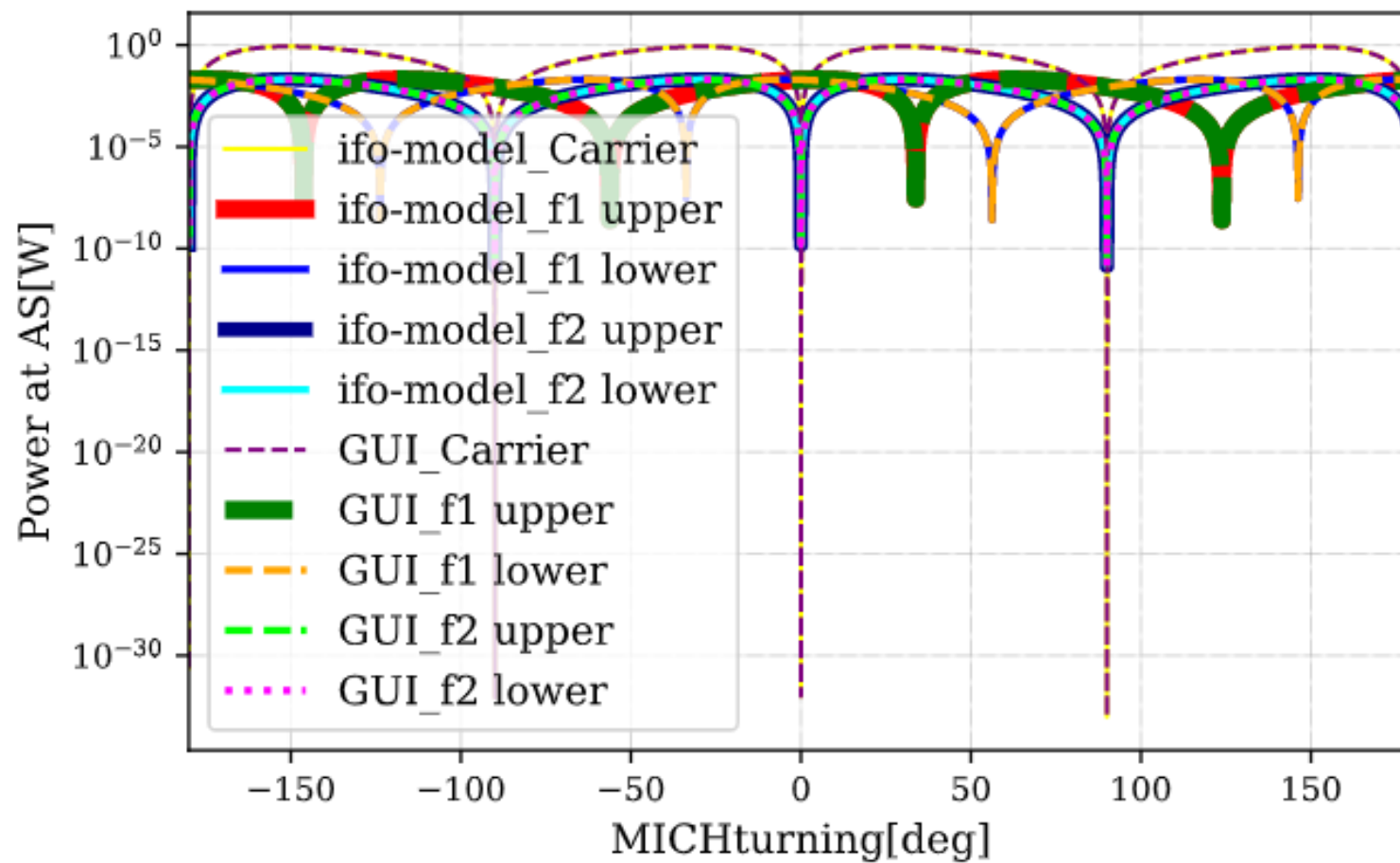
DARM_nTMSX
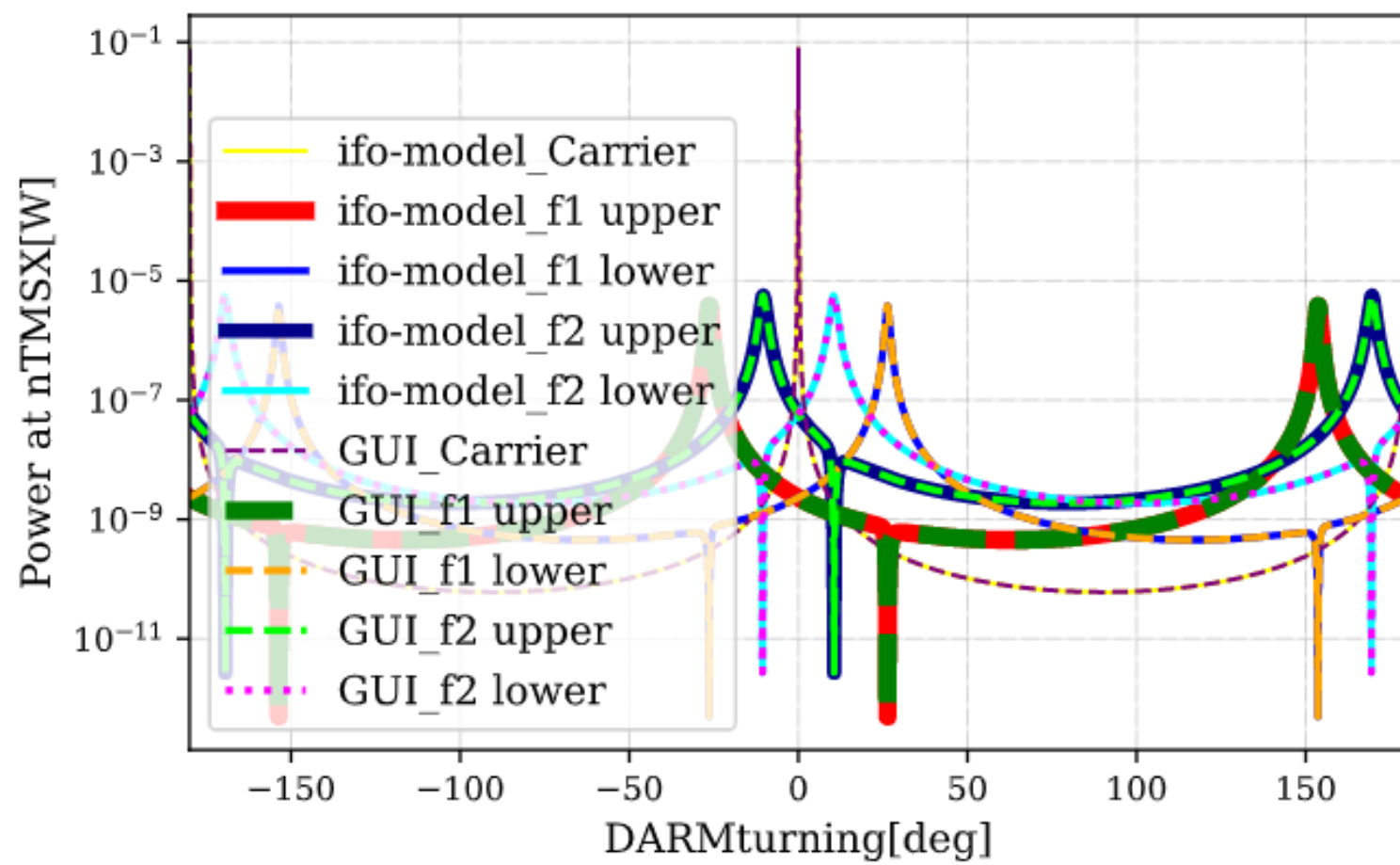
DARM_nTMSY
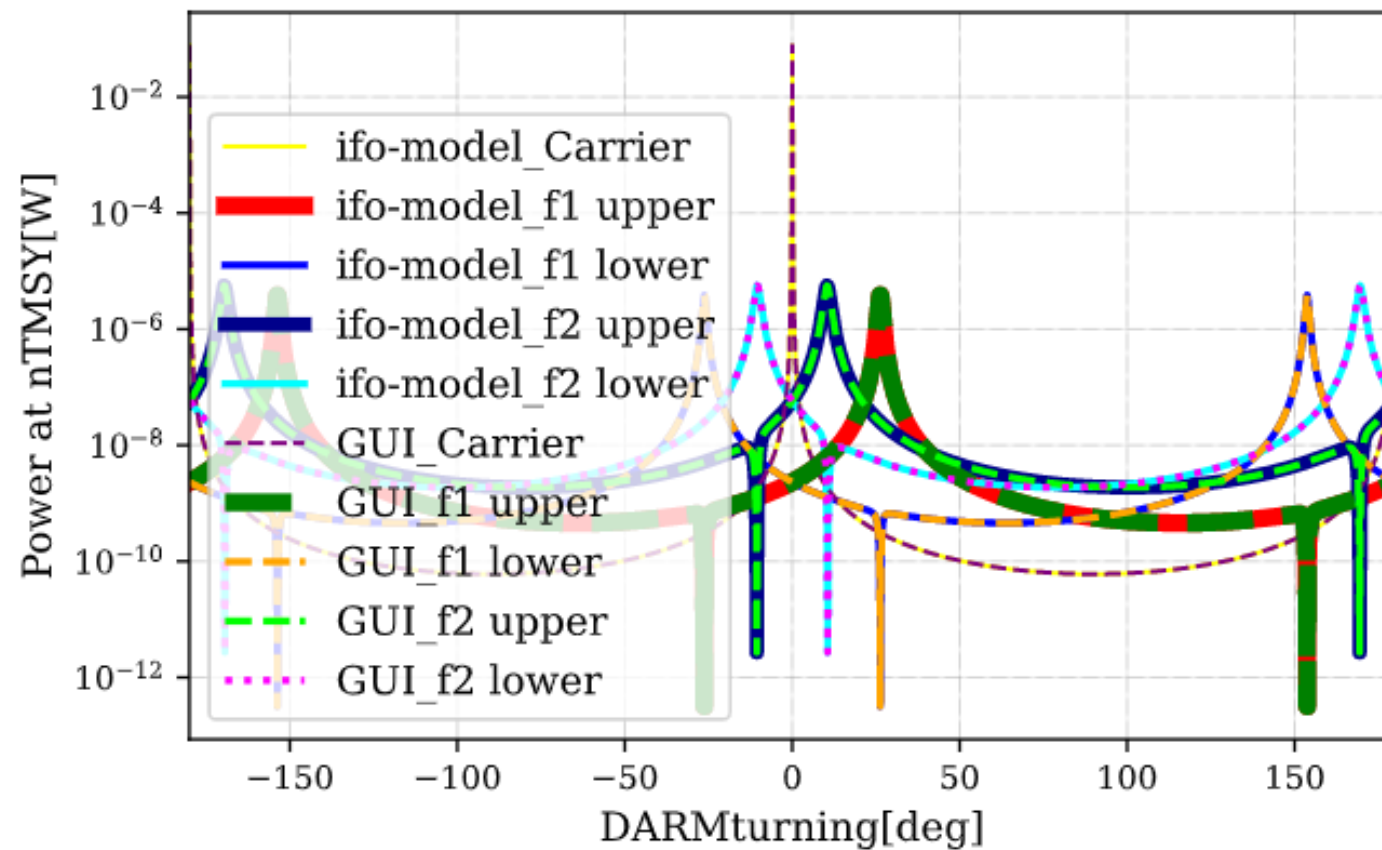
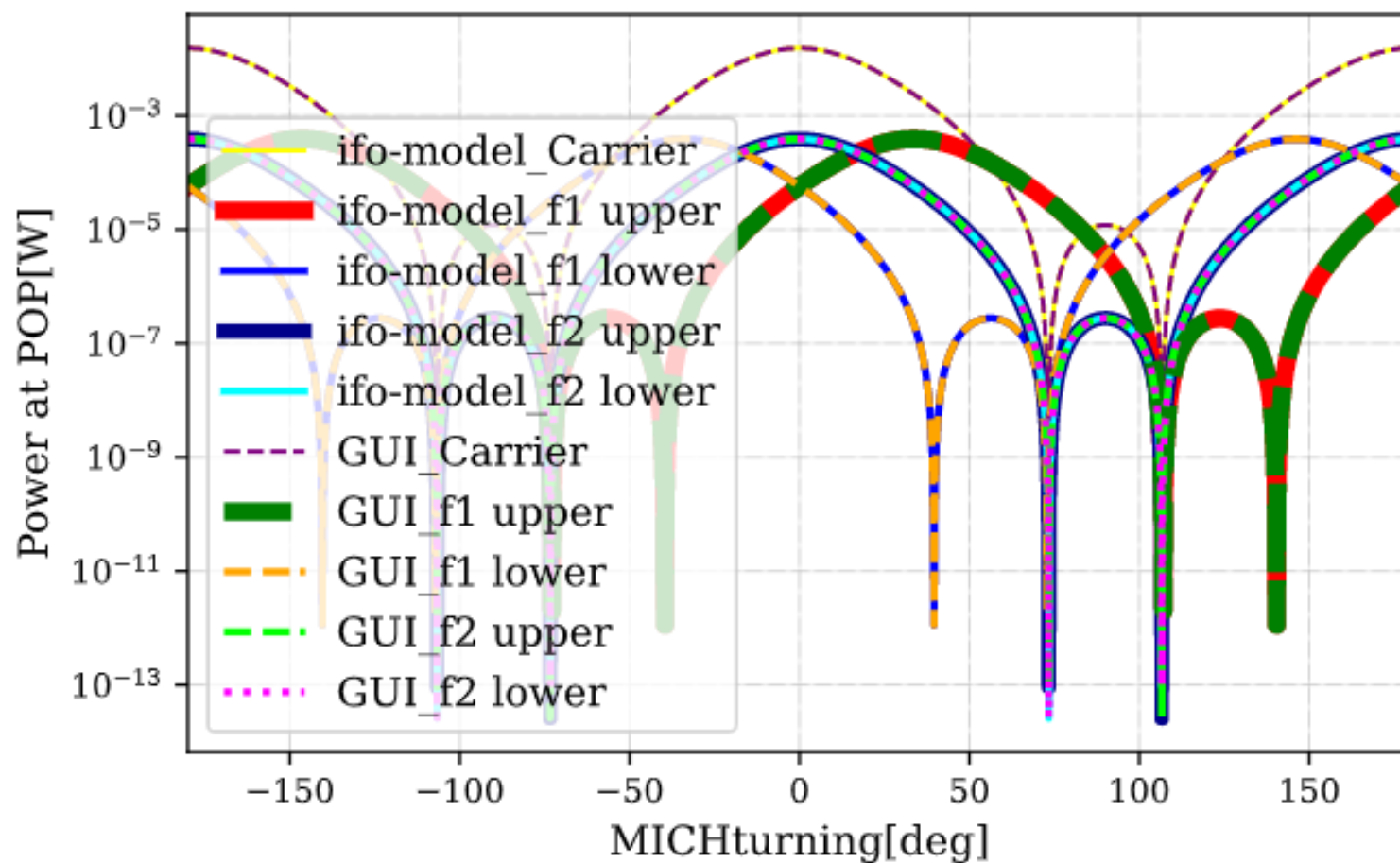# CARM_REFL
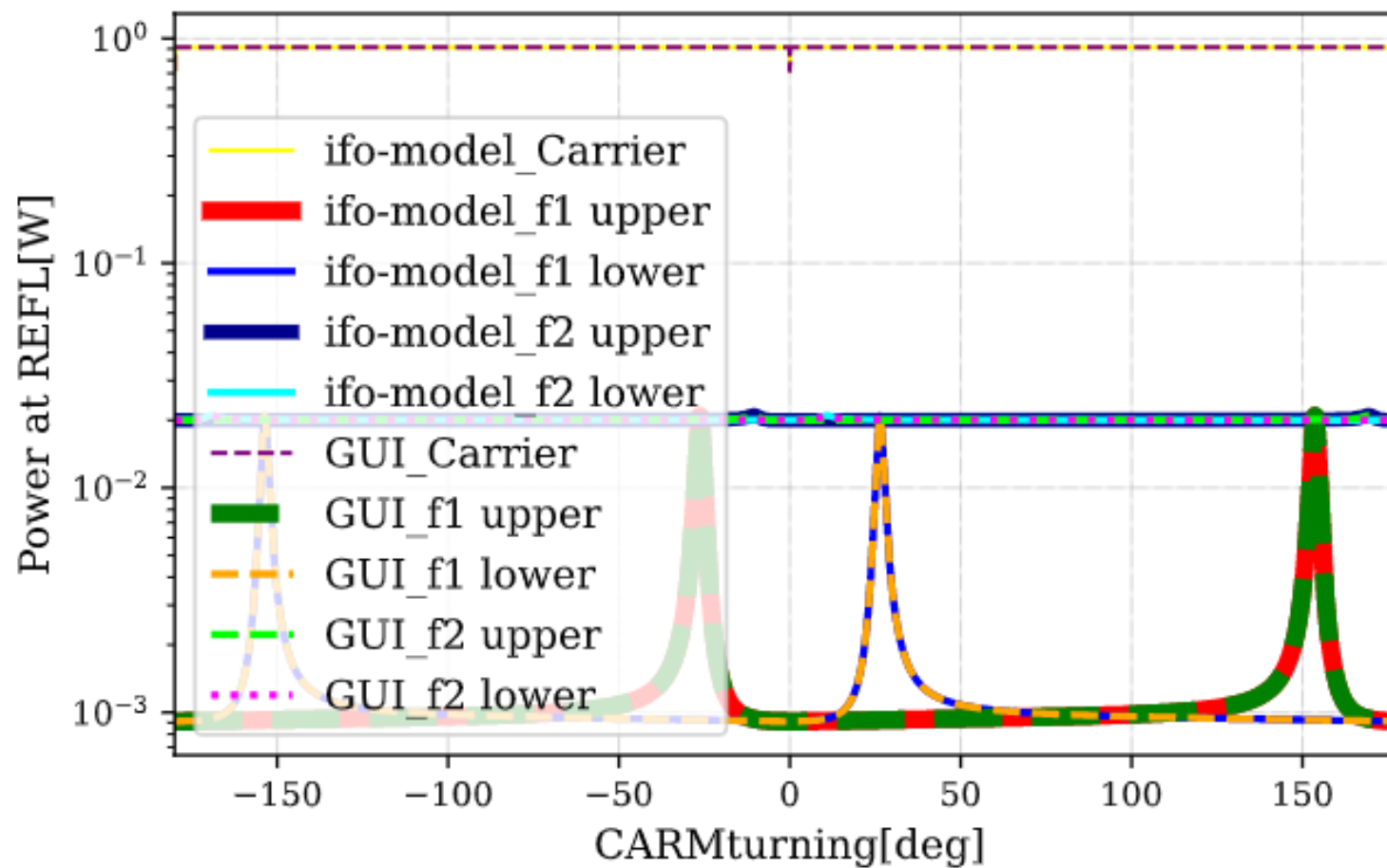
CARM_AS
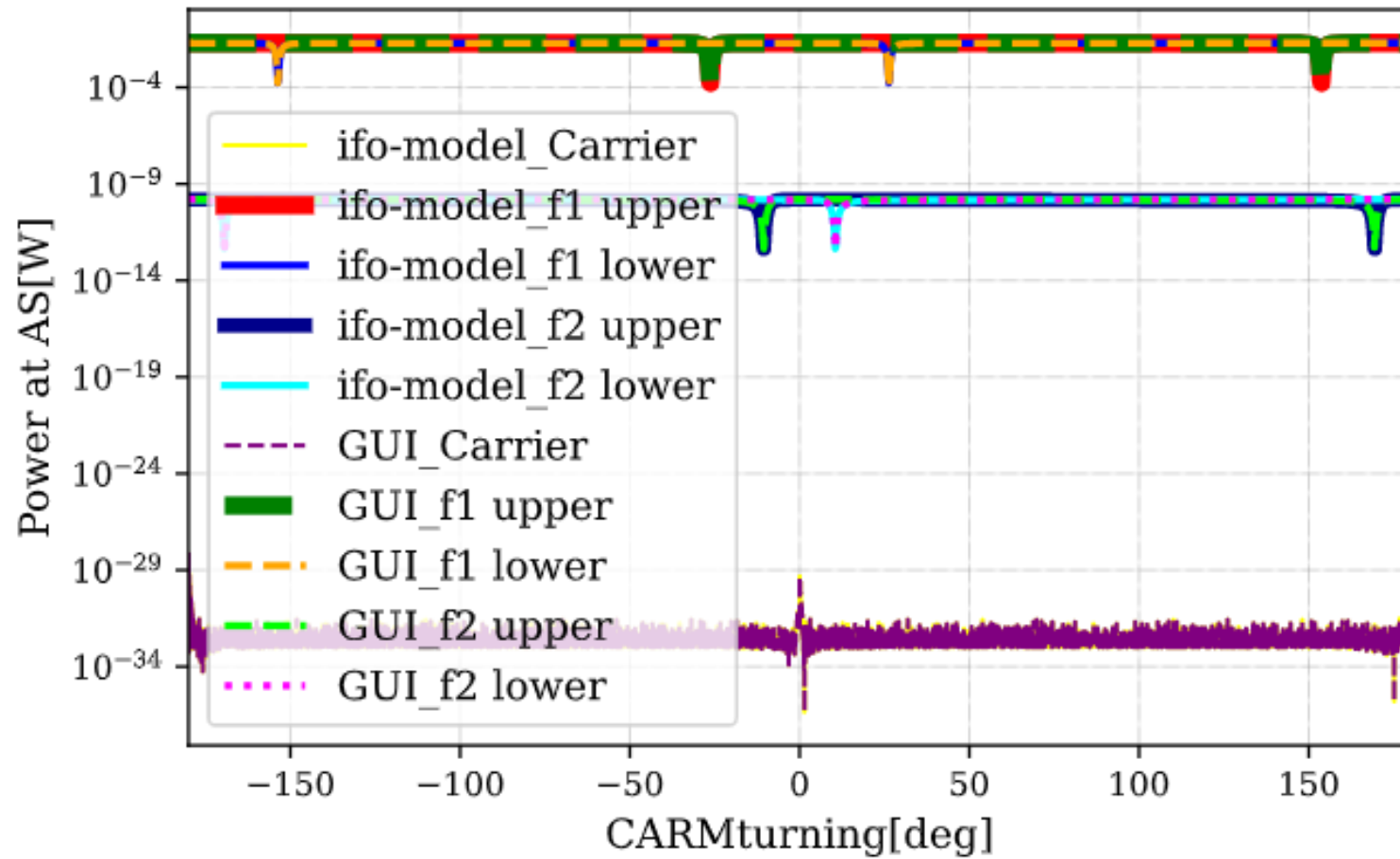
CARM_POP
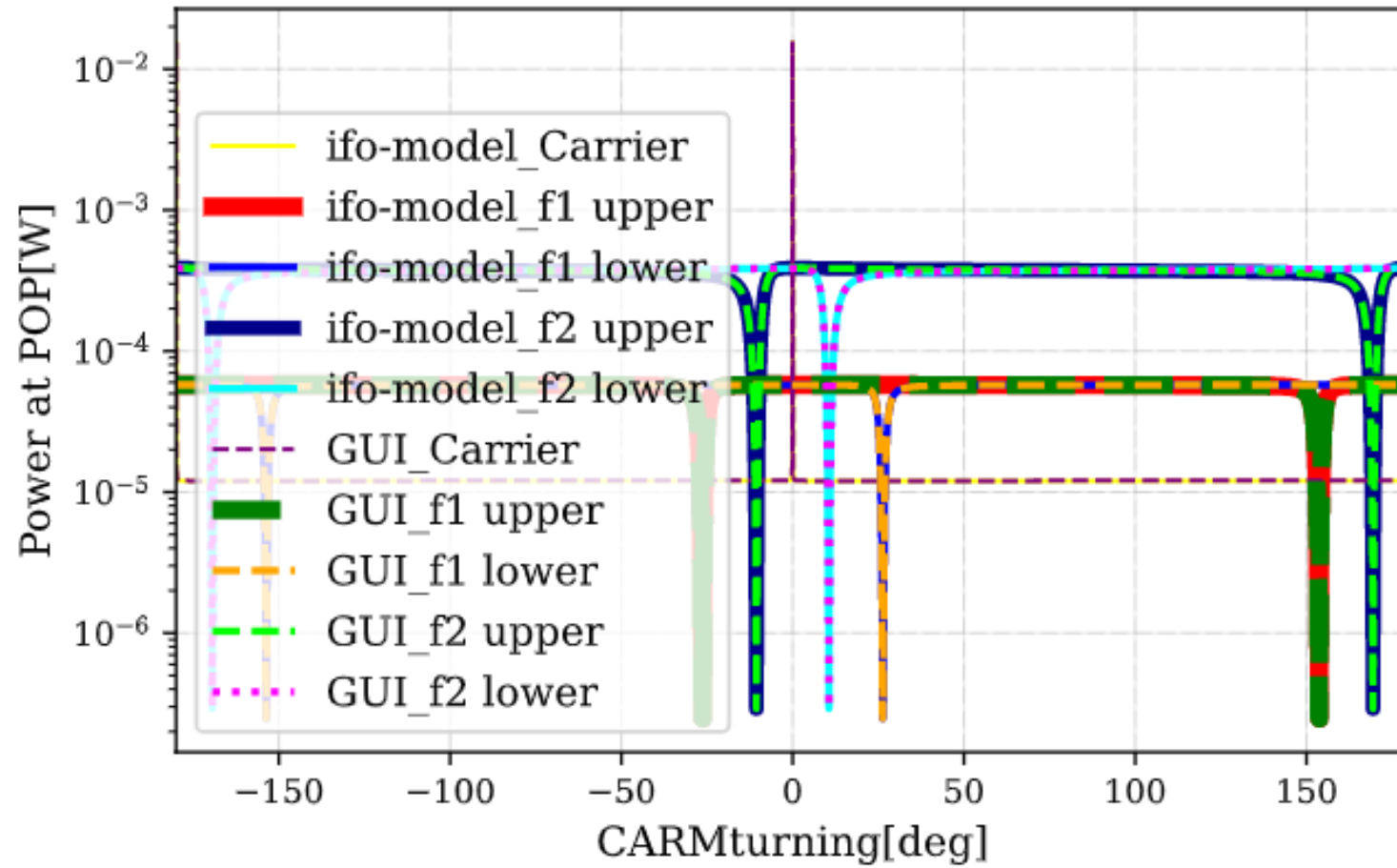
CARM_POS
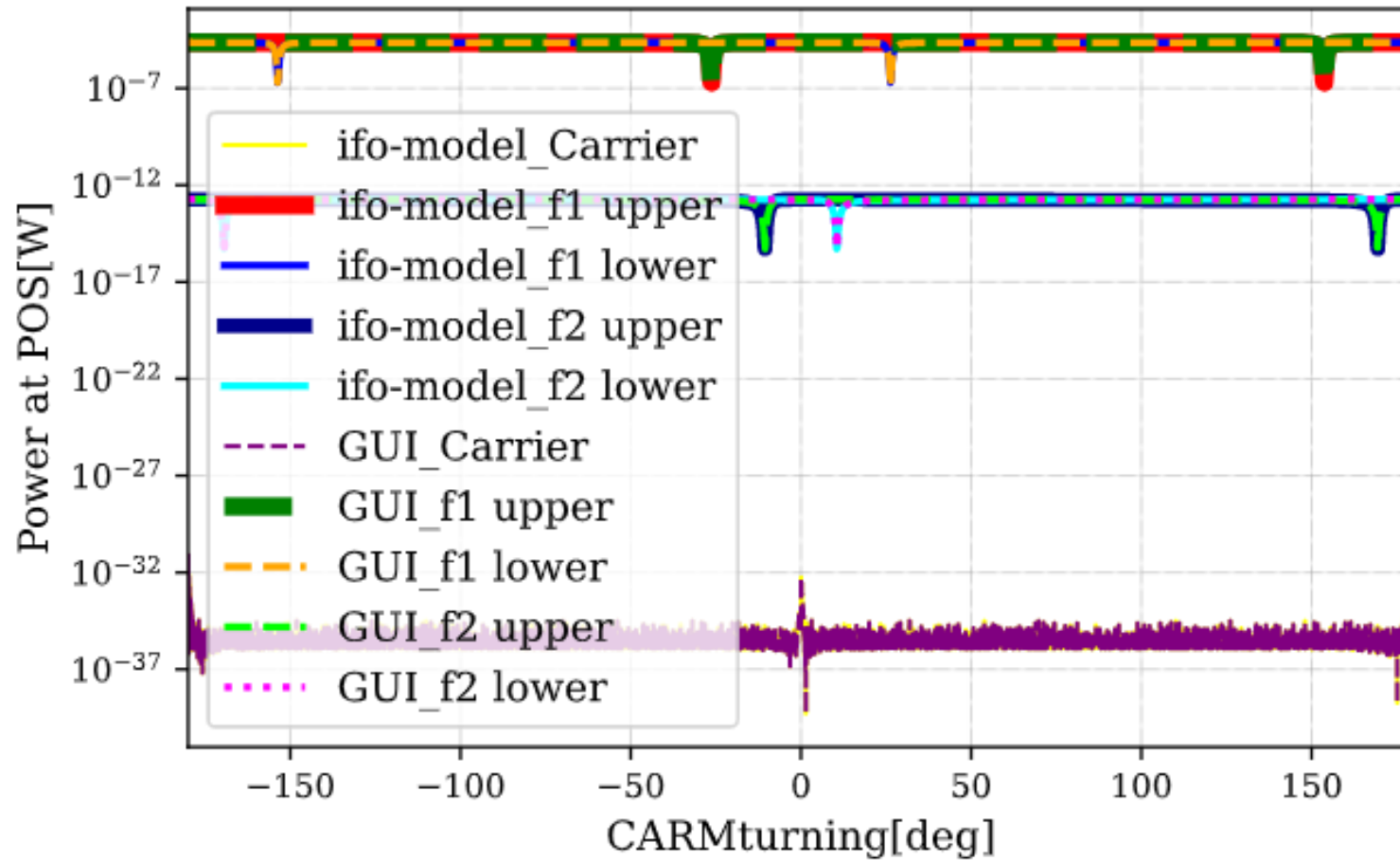
CARM_nTMSX

CARM_nTMSY

MICH_REFL
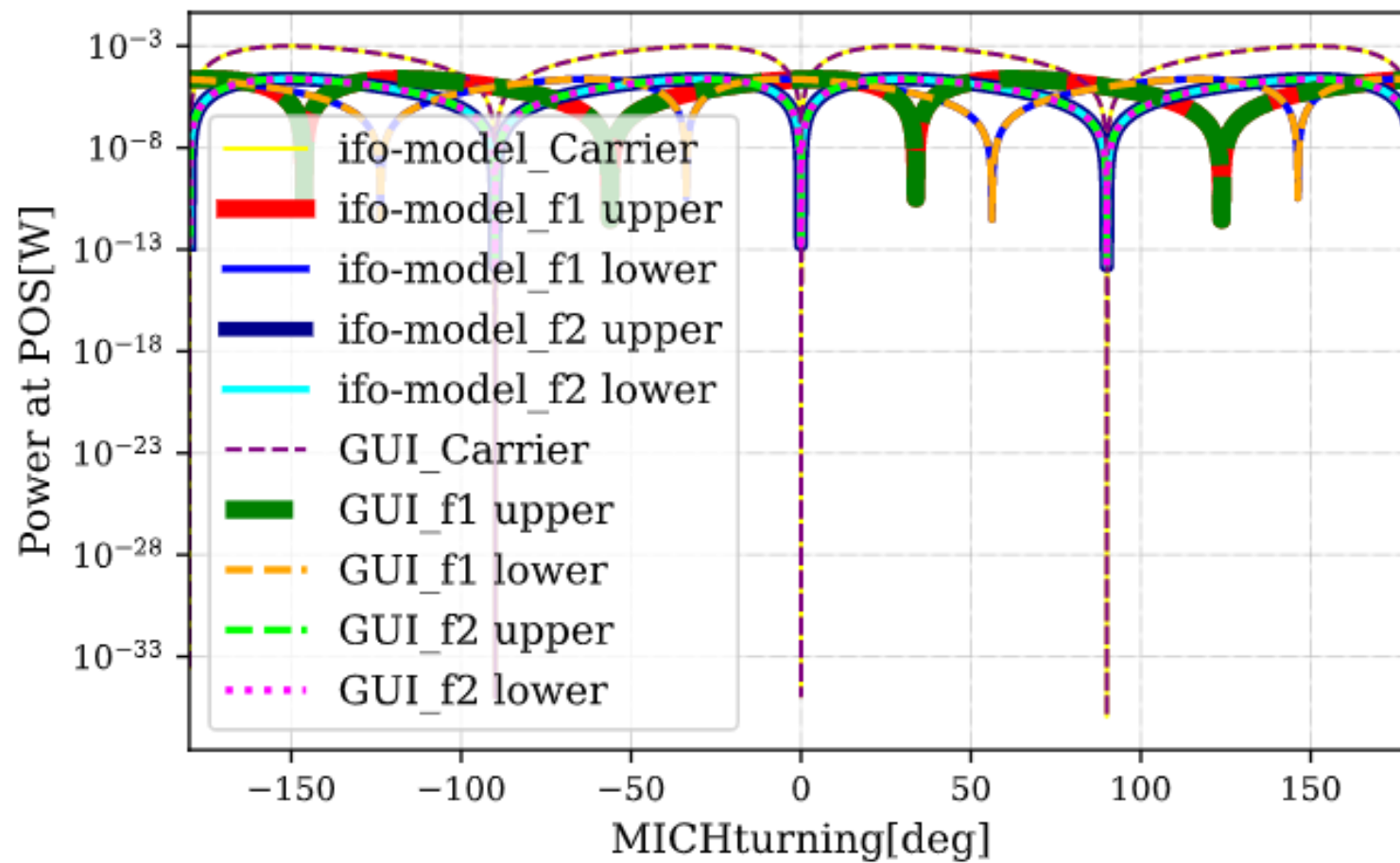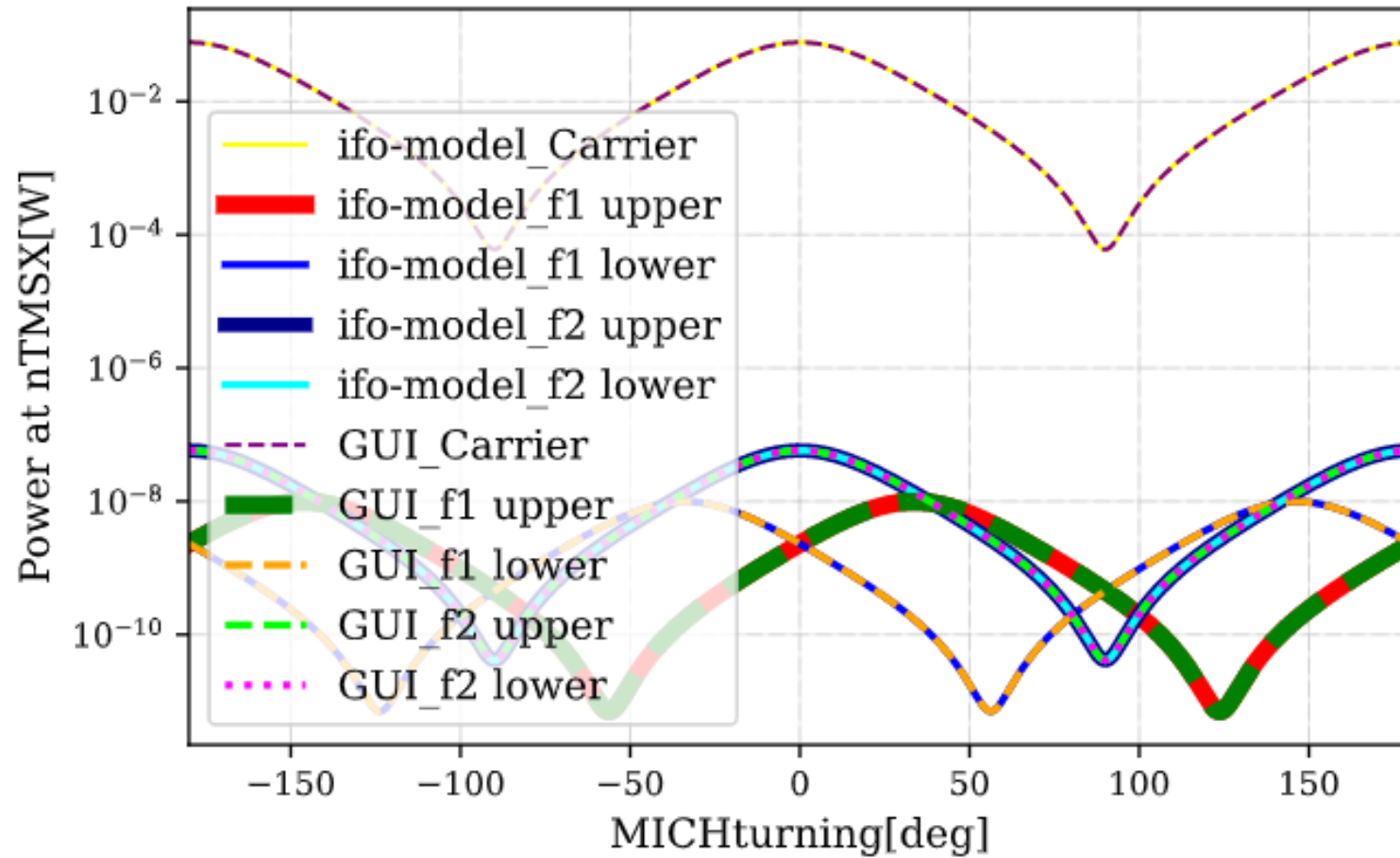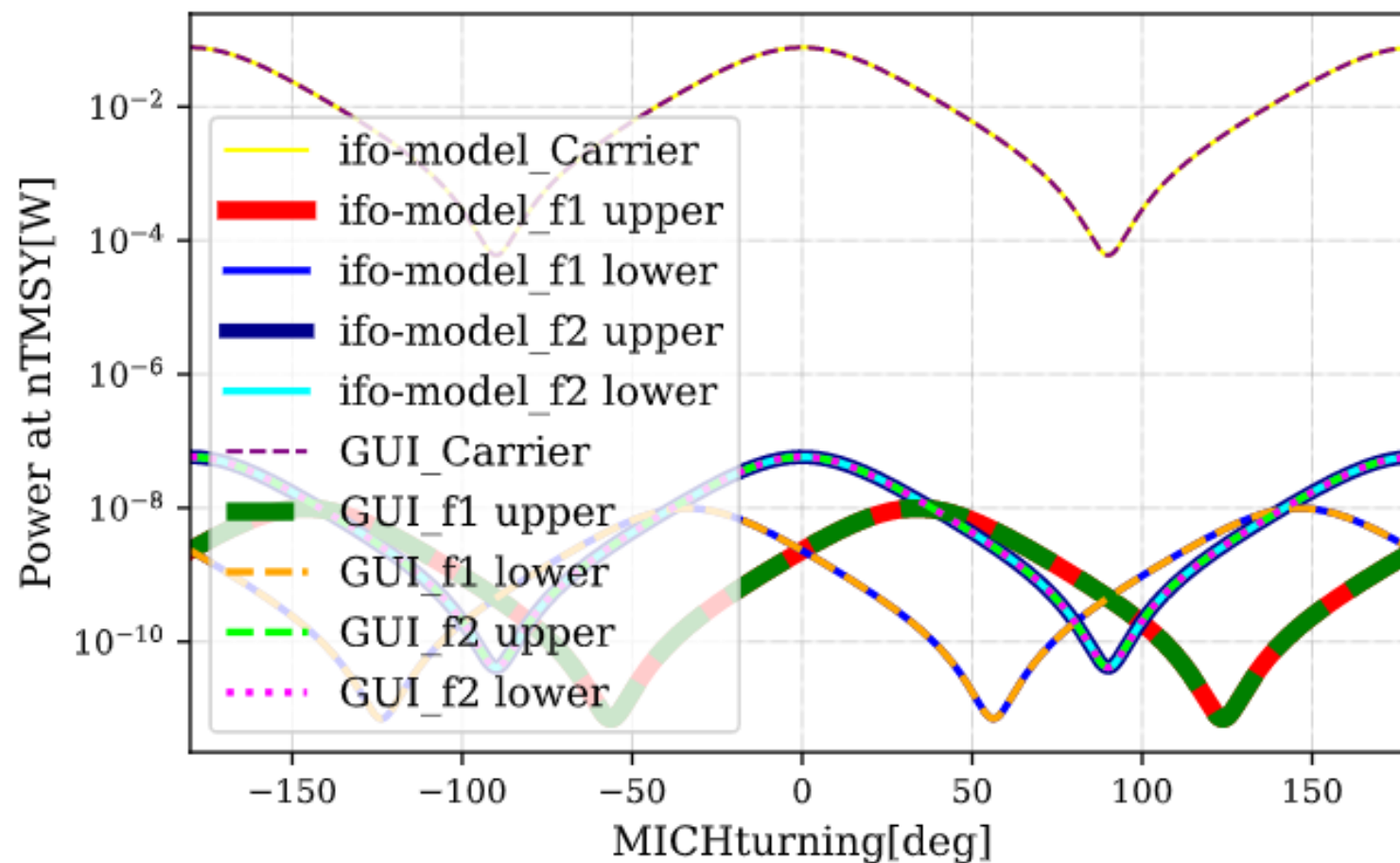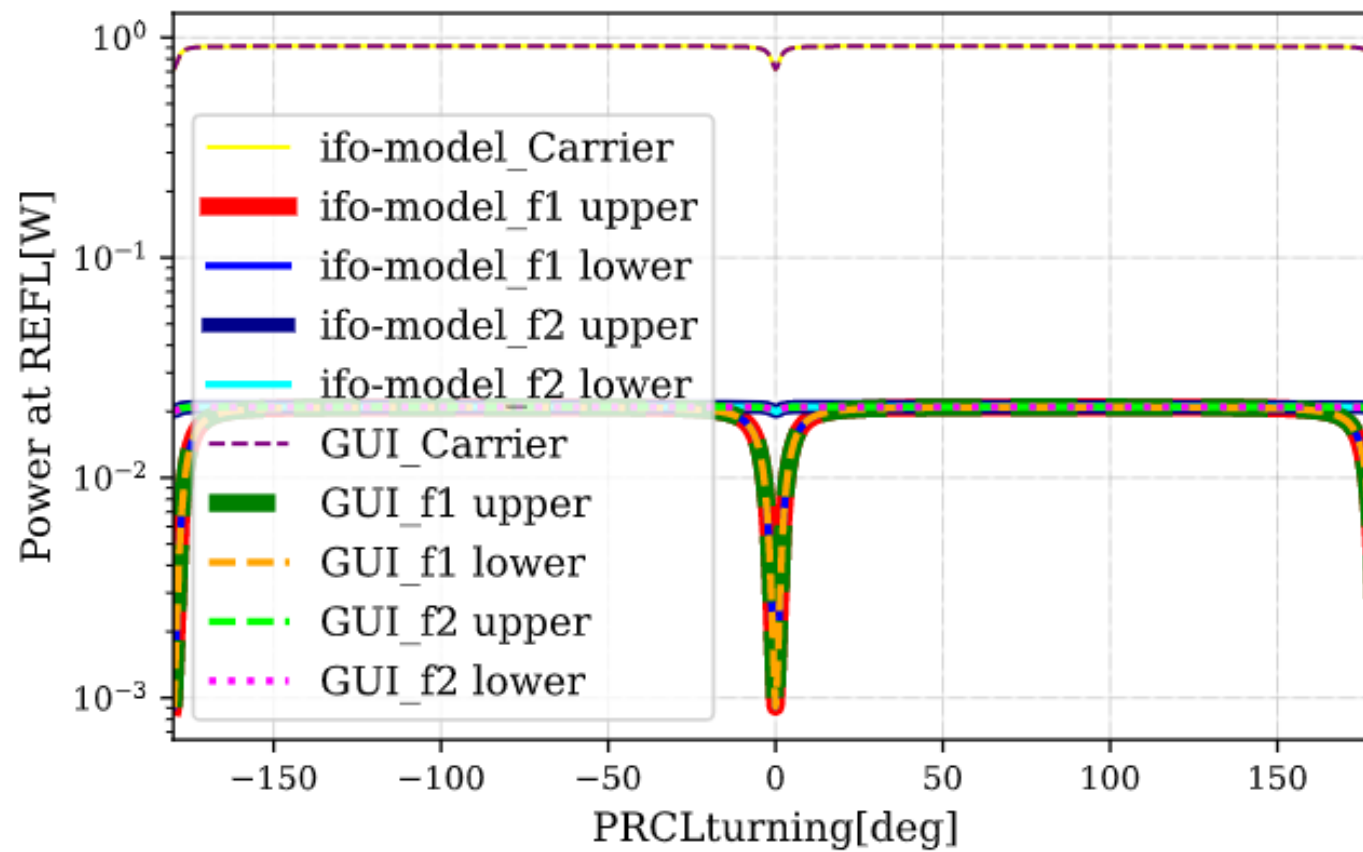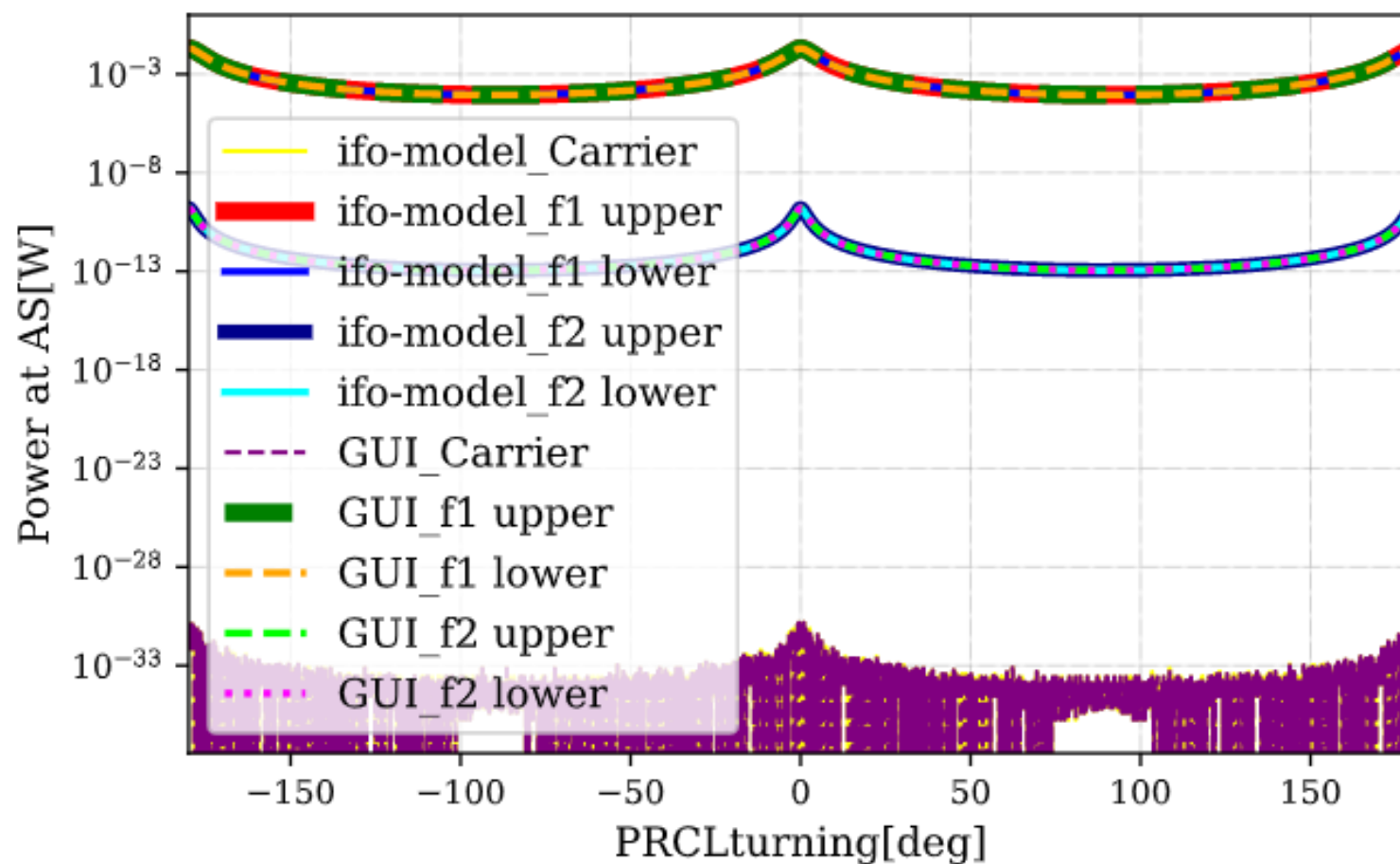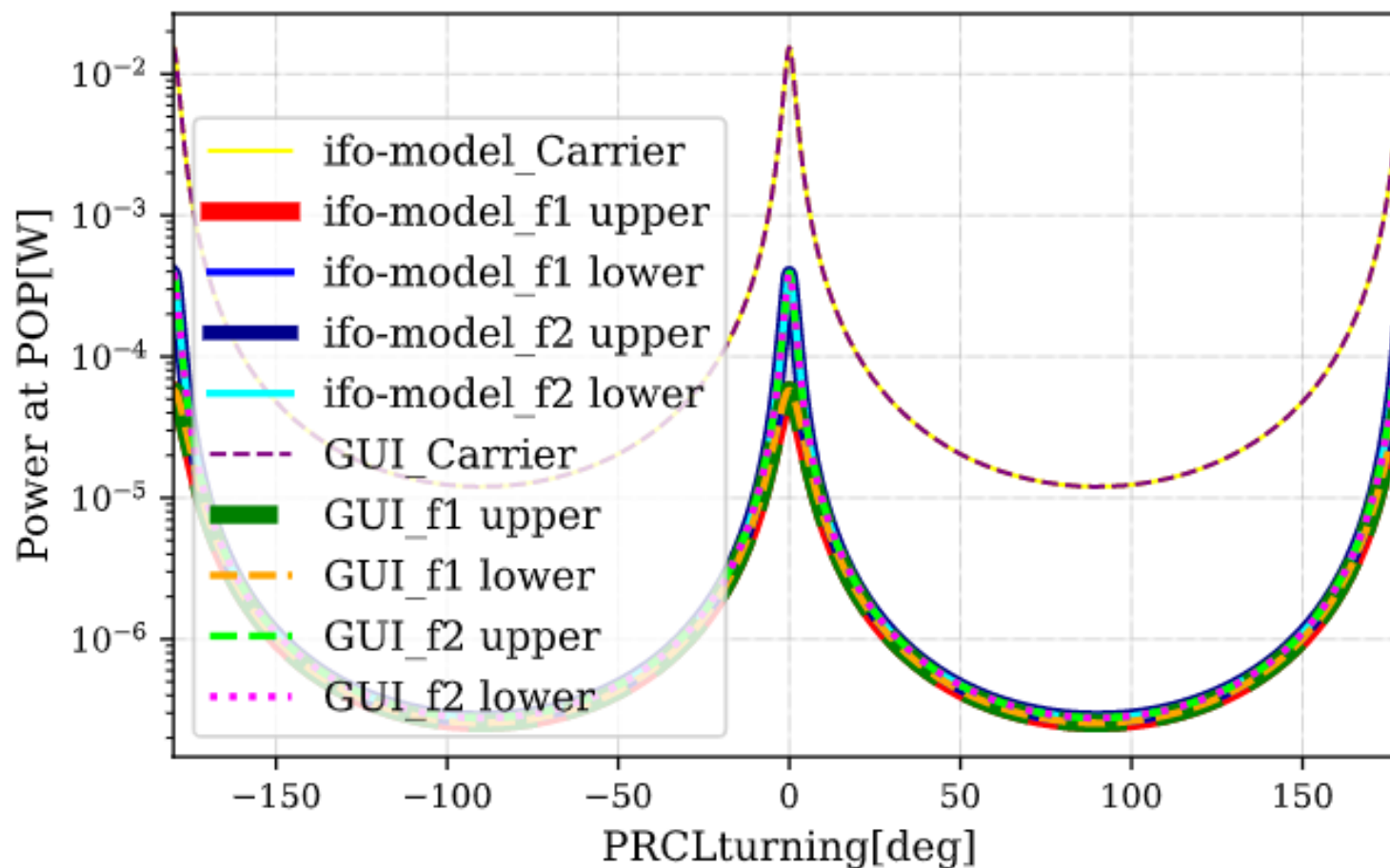
MICH_AS

MICH_POP

MICH_POS

MICH_nTMSX

MICH_nTMSY

PRCL_REFL
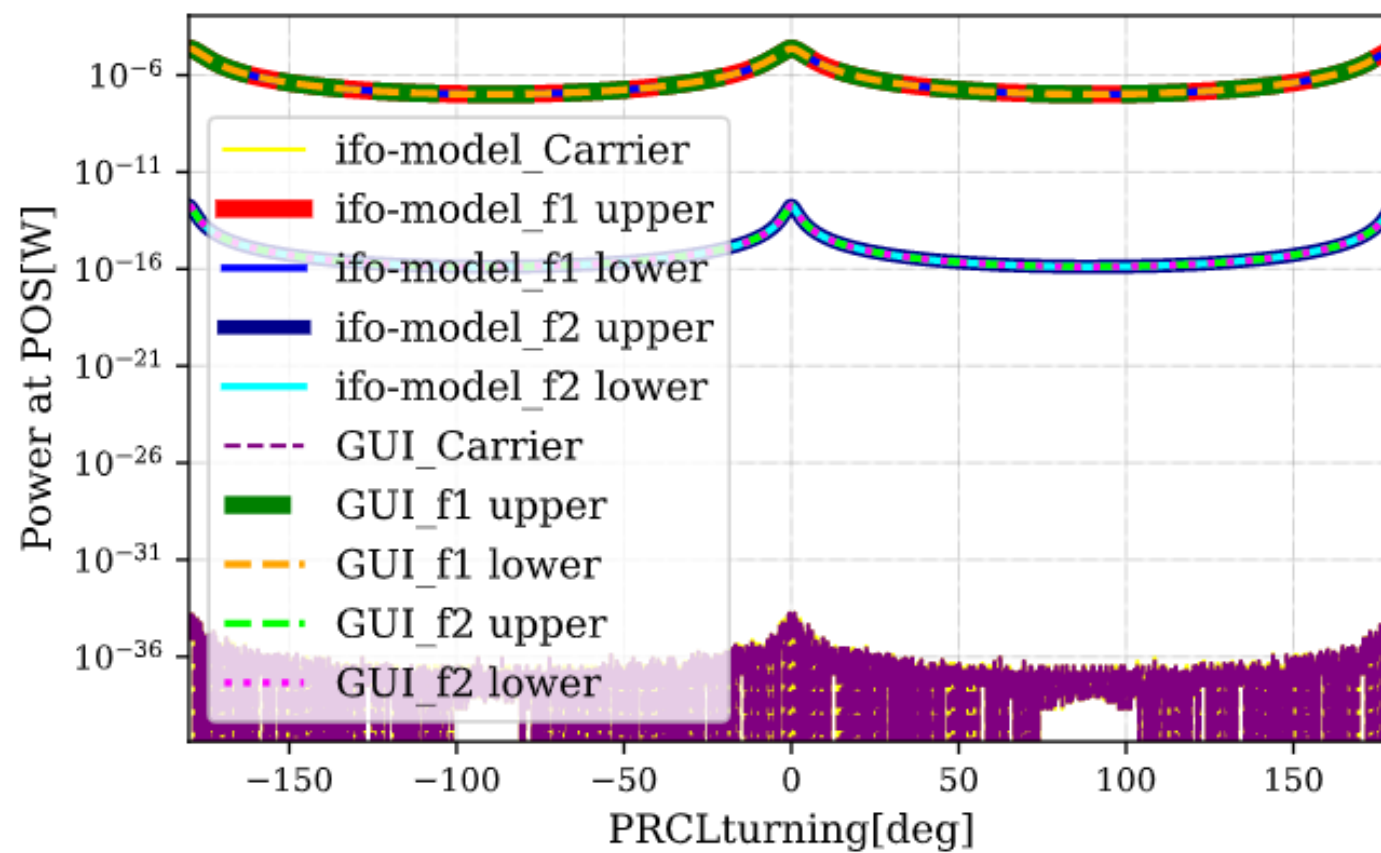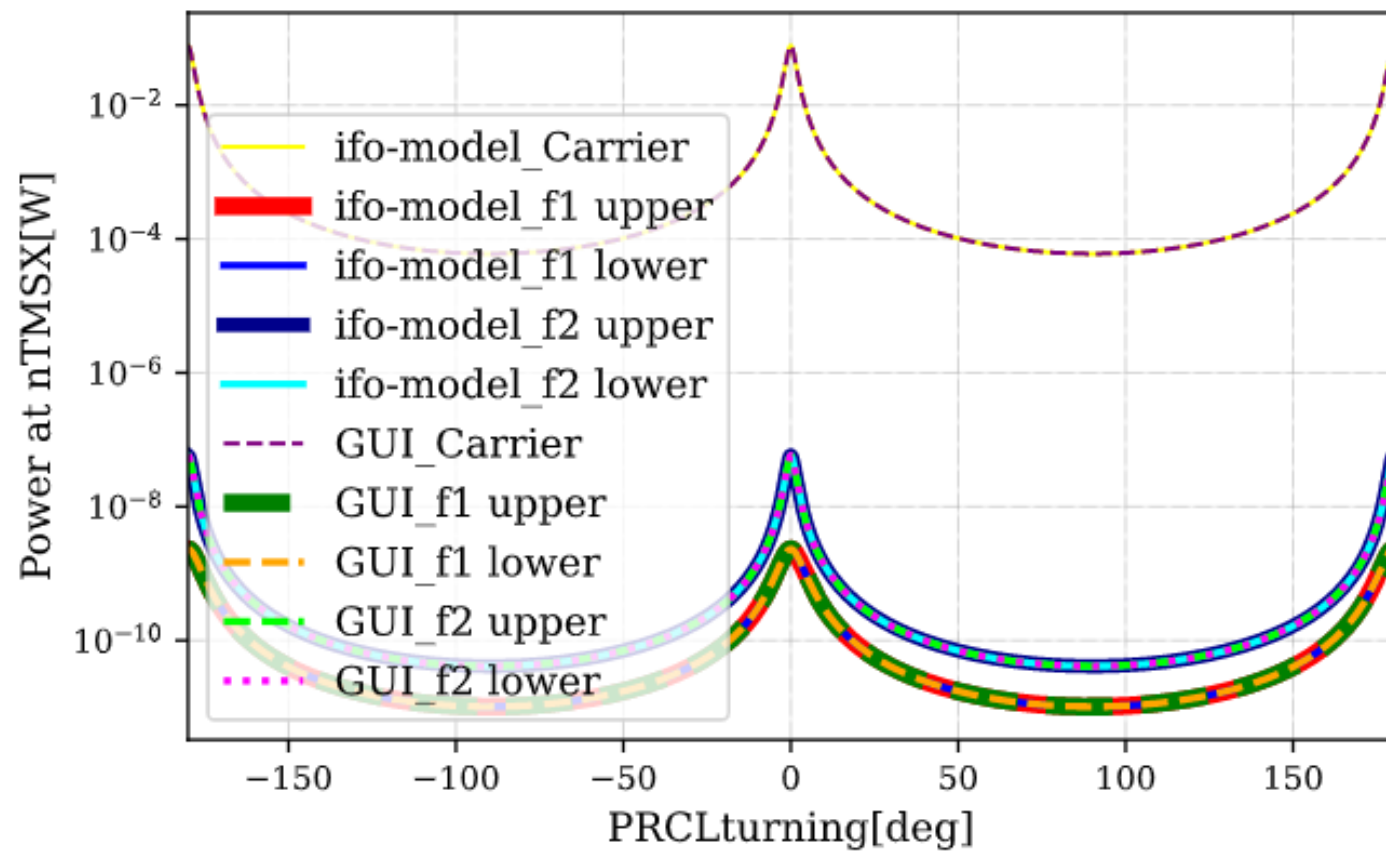
PRCL_AS

PRCL_POP
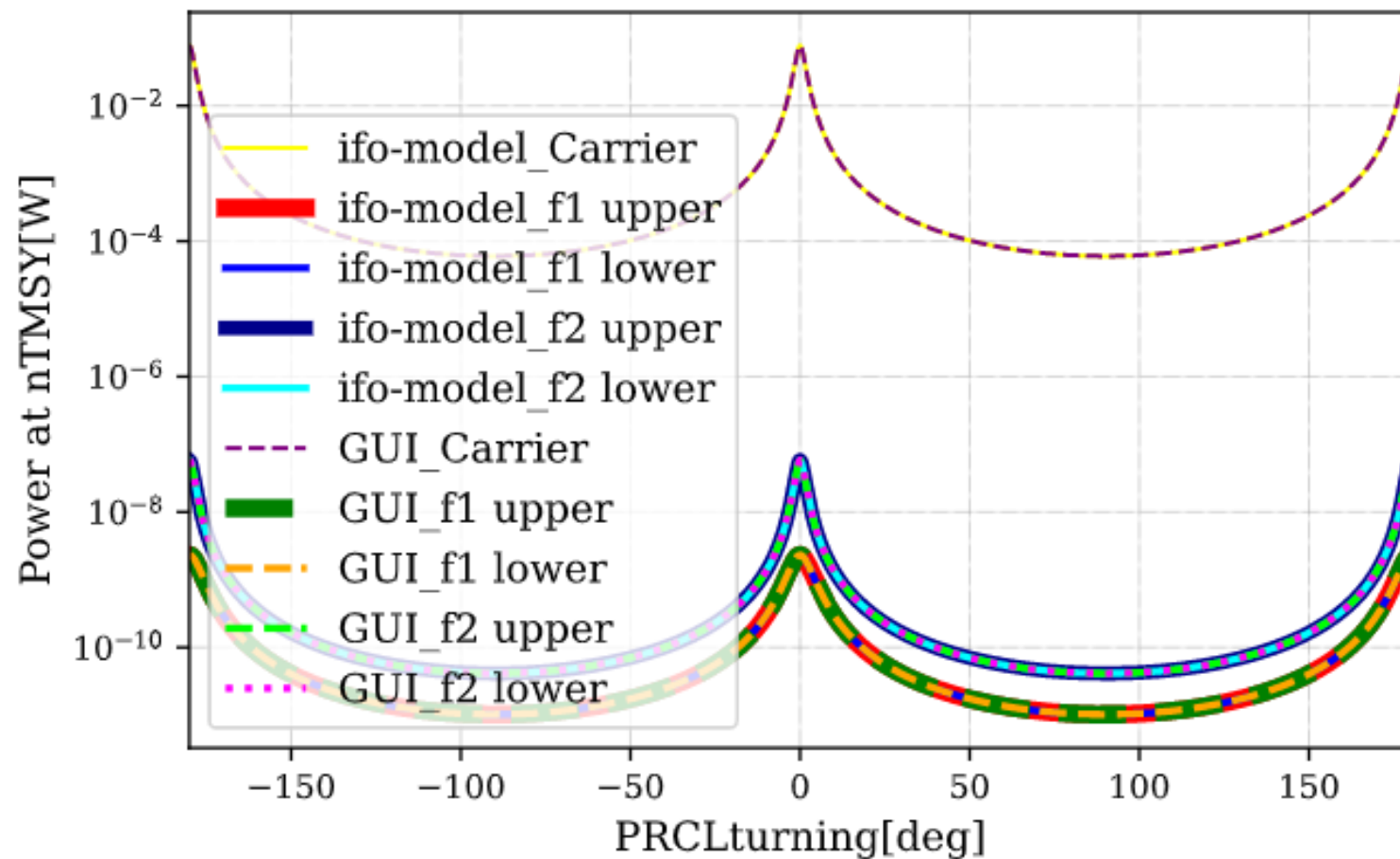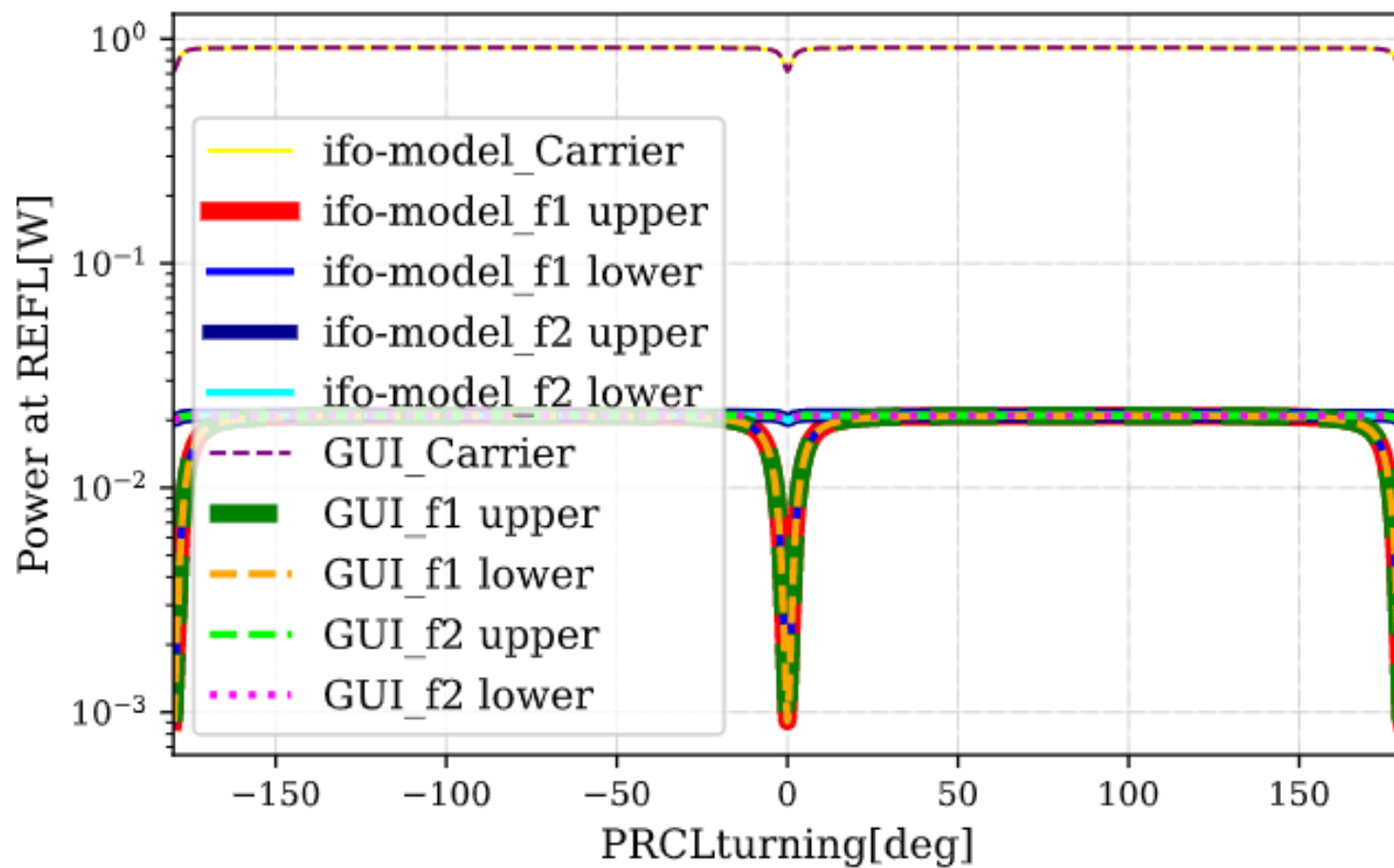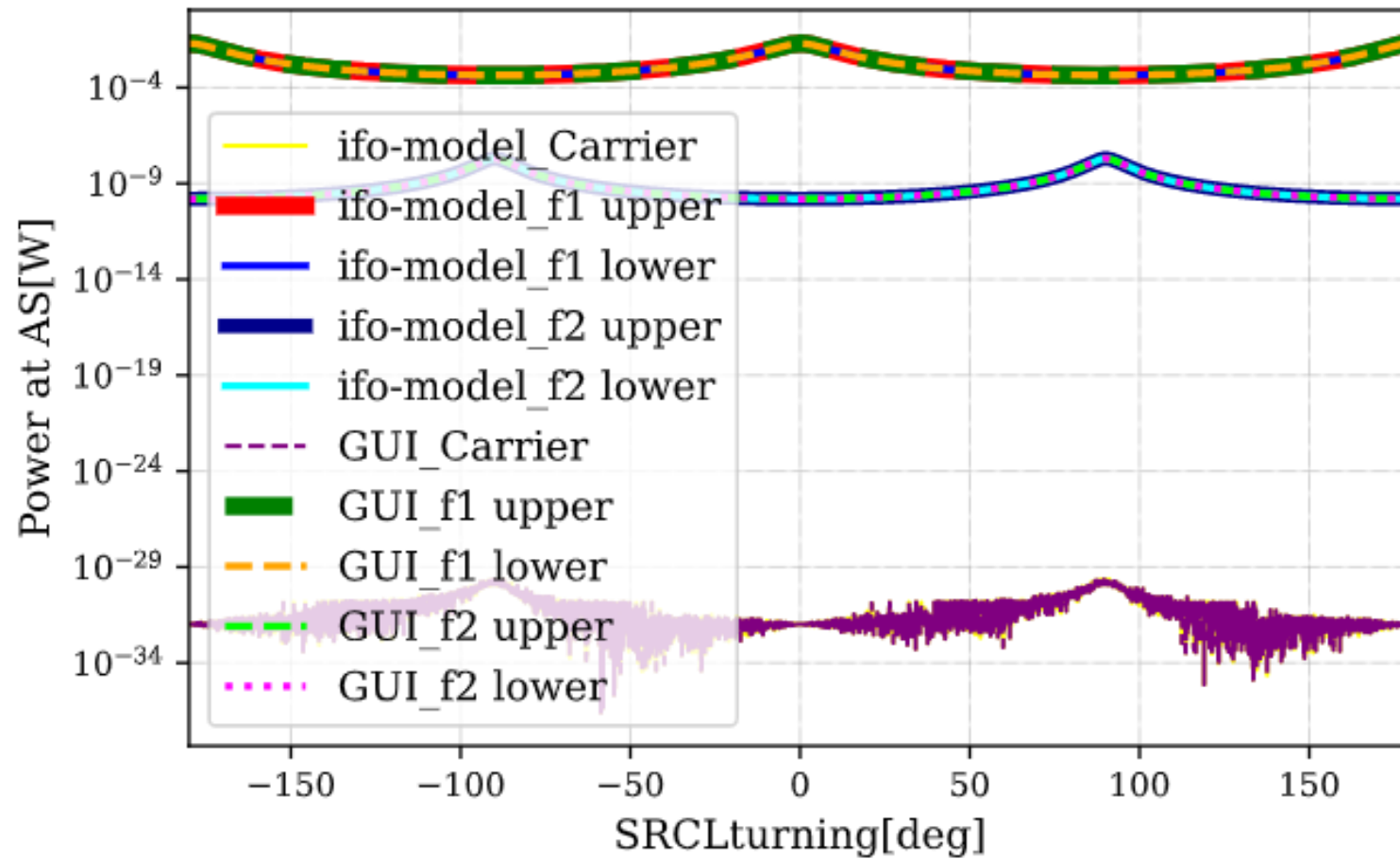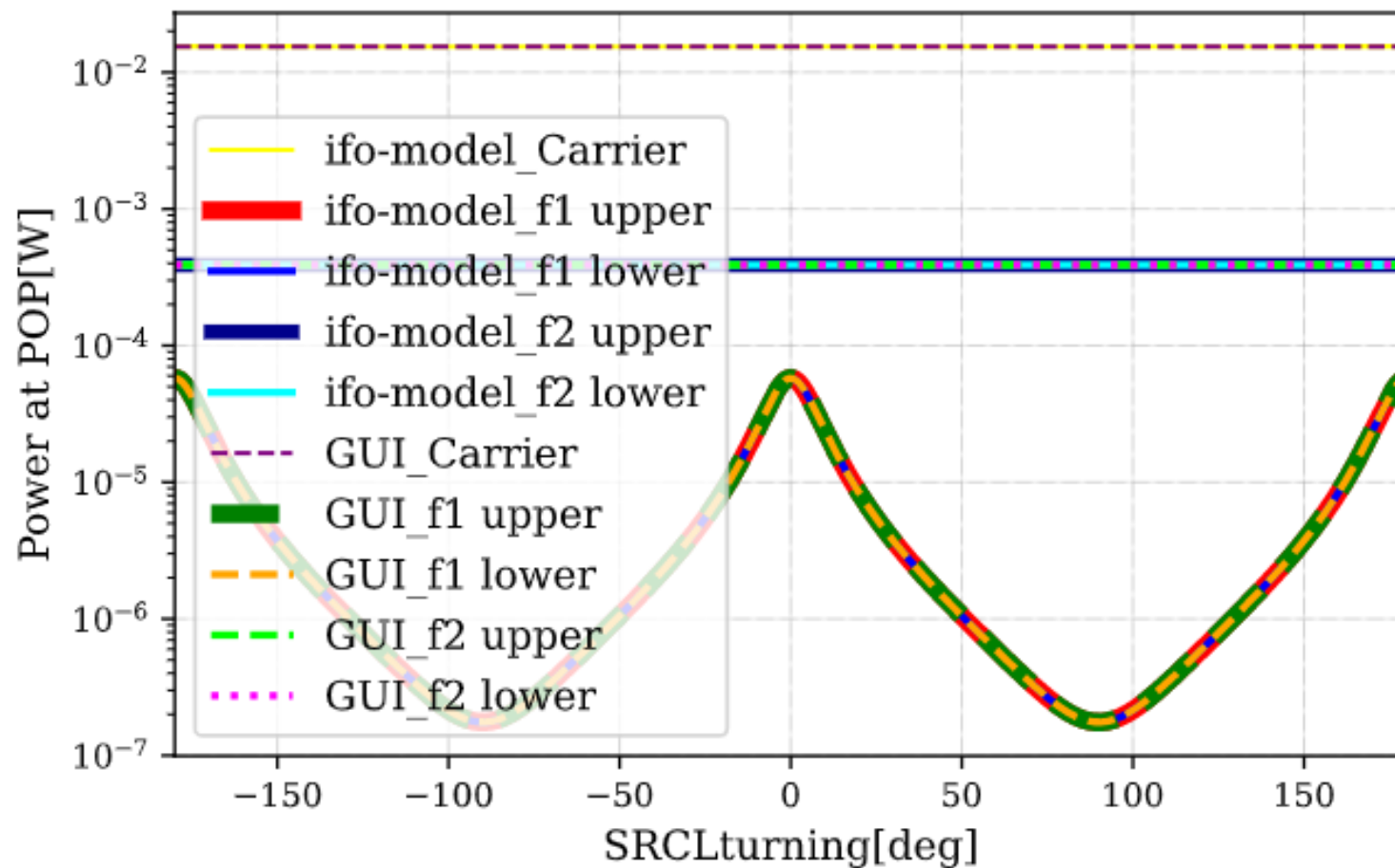
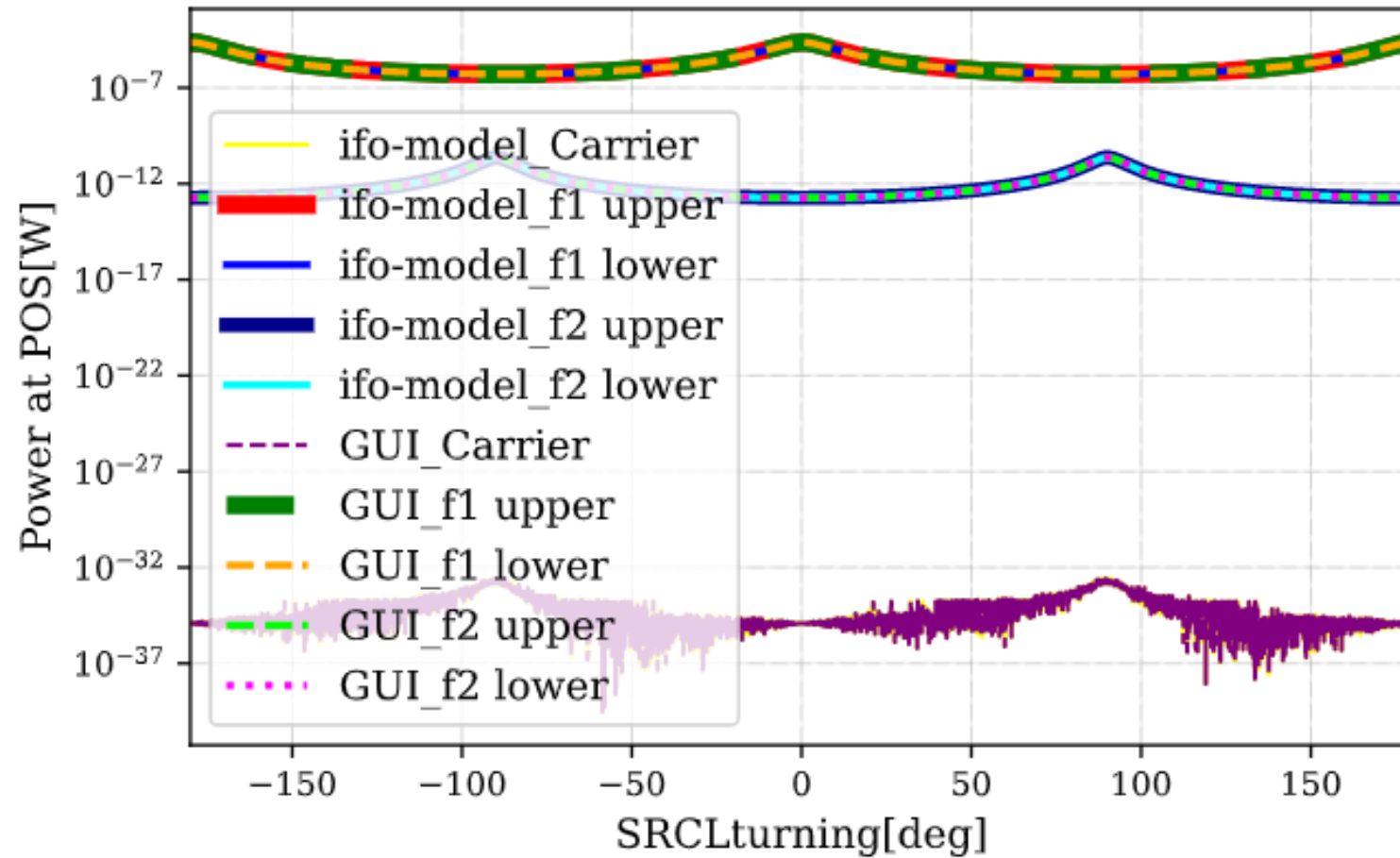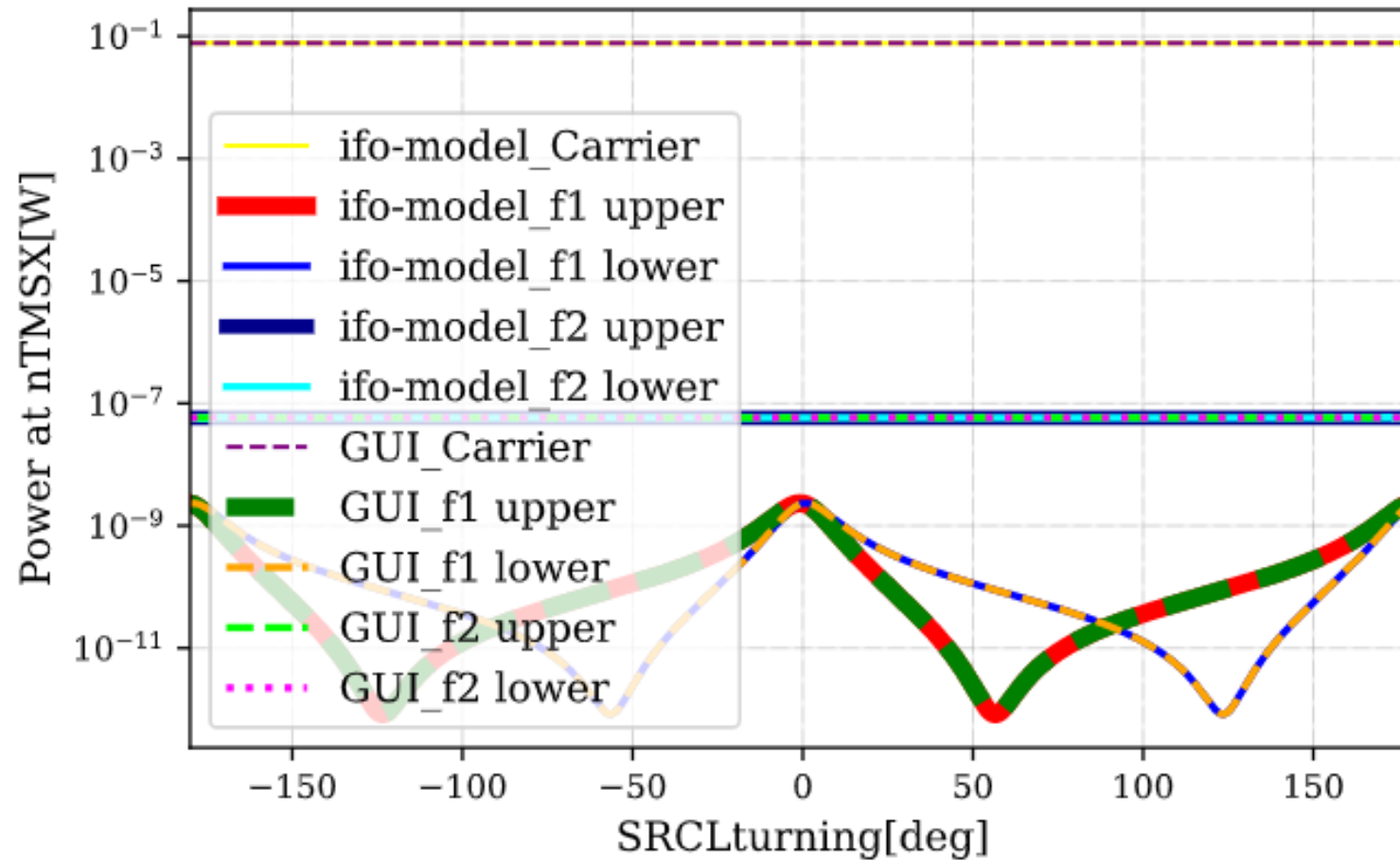# PRCL_POS

PRCL_nTMSX

PRCL_nTMSY

SRCL_REFL

SRCL_AS

SRCL_POP

SRCL_POS

SRCL_nTMSX

SRCL_nTMSY