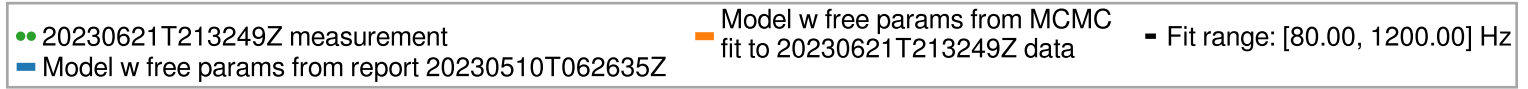
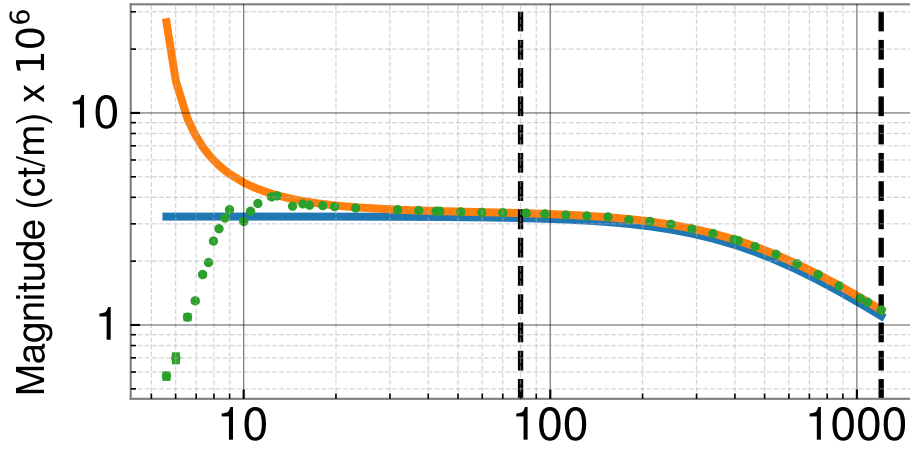


H1 sensing model MCMC summary

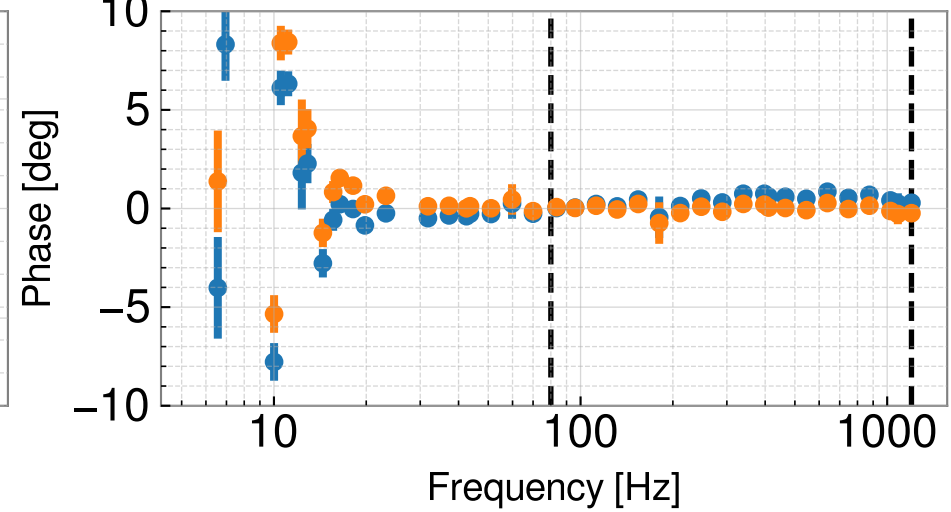
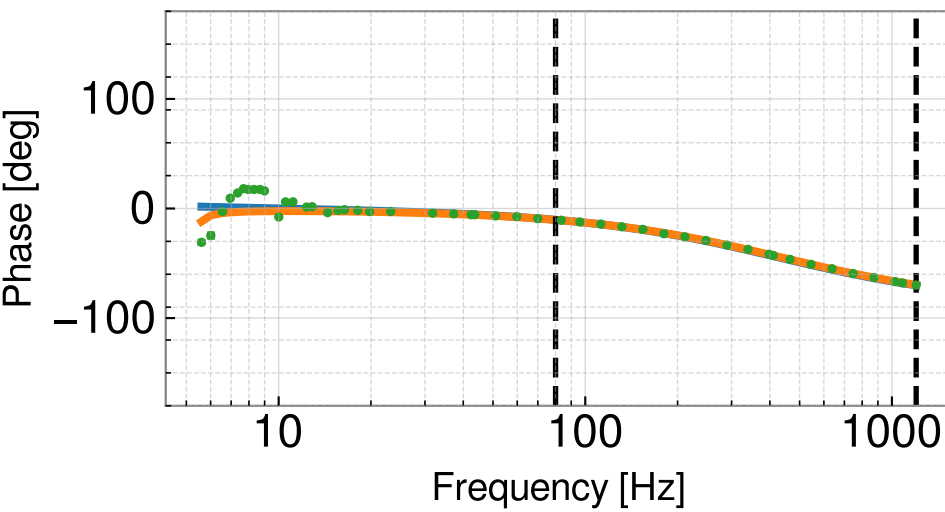
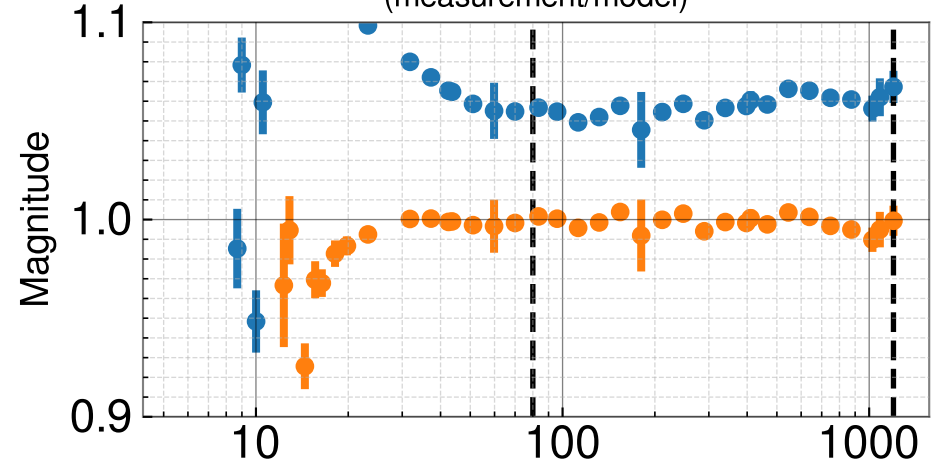
All fixed parameters drawn from /ligo/groups/cal/H1/reports/20230621T211522Z/pydarm_H1.ini



Optical response transfer functions
(scaled by $1/C_R$)

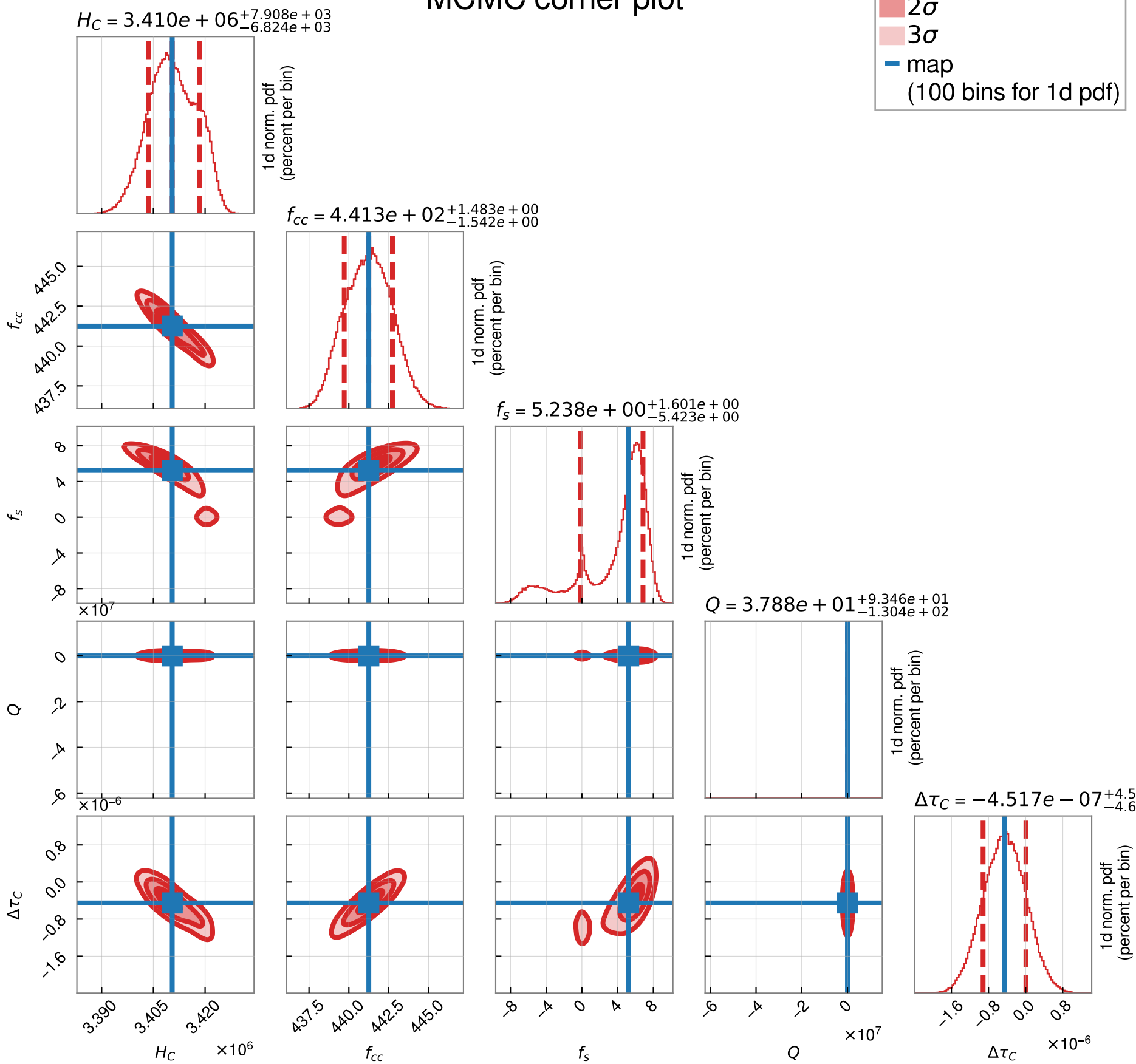
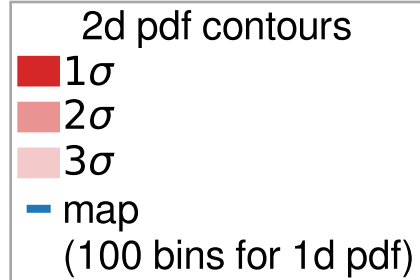


Optical response residuals
(measurement/model)



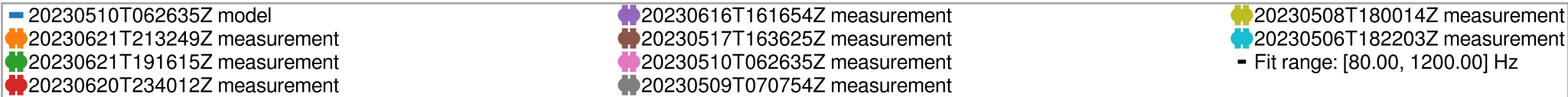
Parameter	(value +/-) value	+	-
Optical gain, H_c (ct/m)	3.41e+06	7908 (0.23%)	6824 (0.20%)
Cavity_pole, f_cc (Hz)	441.3	1.483 (0.34%)	1.542 (0.35%)
Detuned SRC spring frequency, f_s (Hz)	5.238	1.601 (30.57%)	5.423 (103.52%)
Detuned SRC spring quality factor, Q_s	37.88	93.46 (246.71%)	130.4 (344.28%)
Residual time delay, tau_c (s)	-4.517e-07	4.58e-07 (-101.40%)	4.663e-07 (-103.23%)

20230621T213249Z sensing function MCMC corner plot

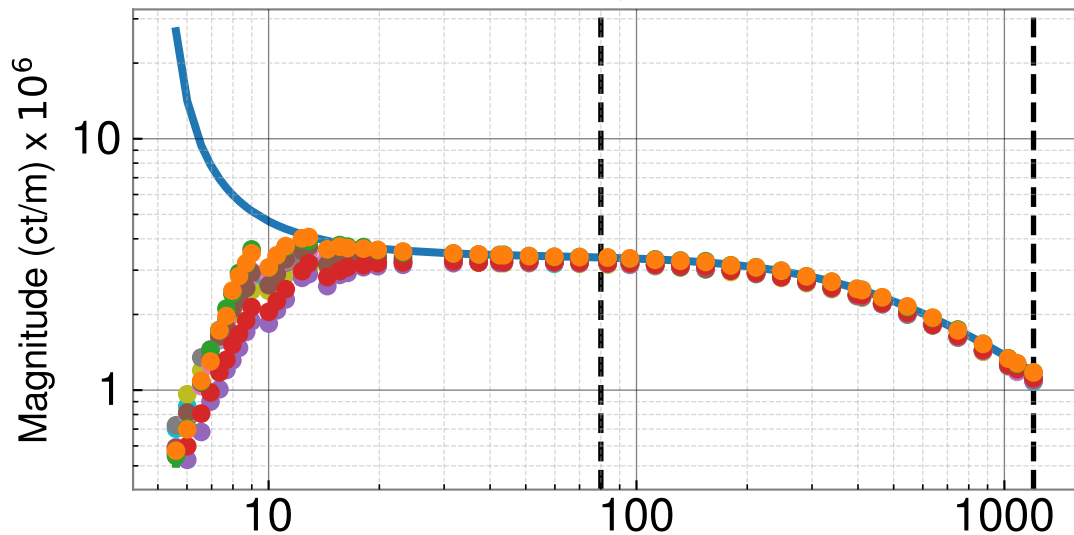


H1 sensing model history

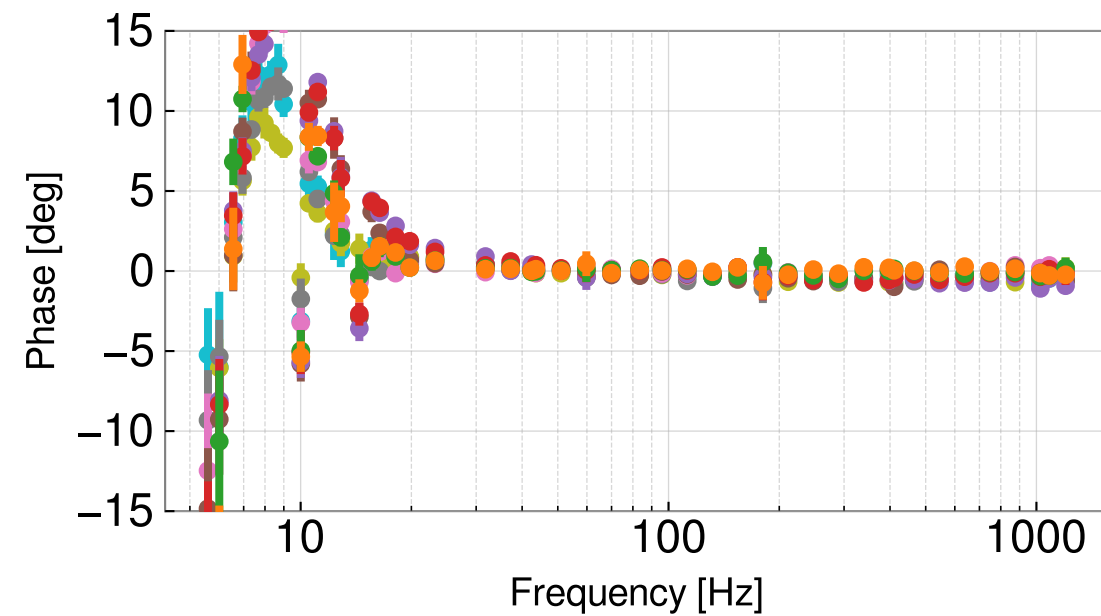
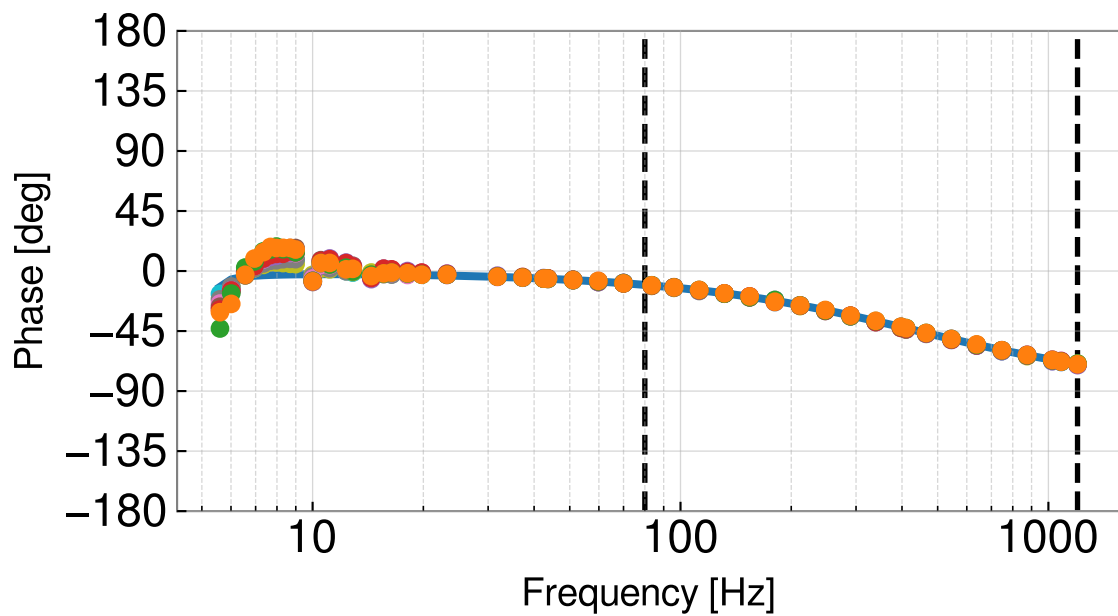
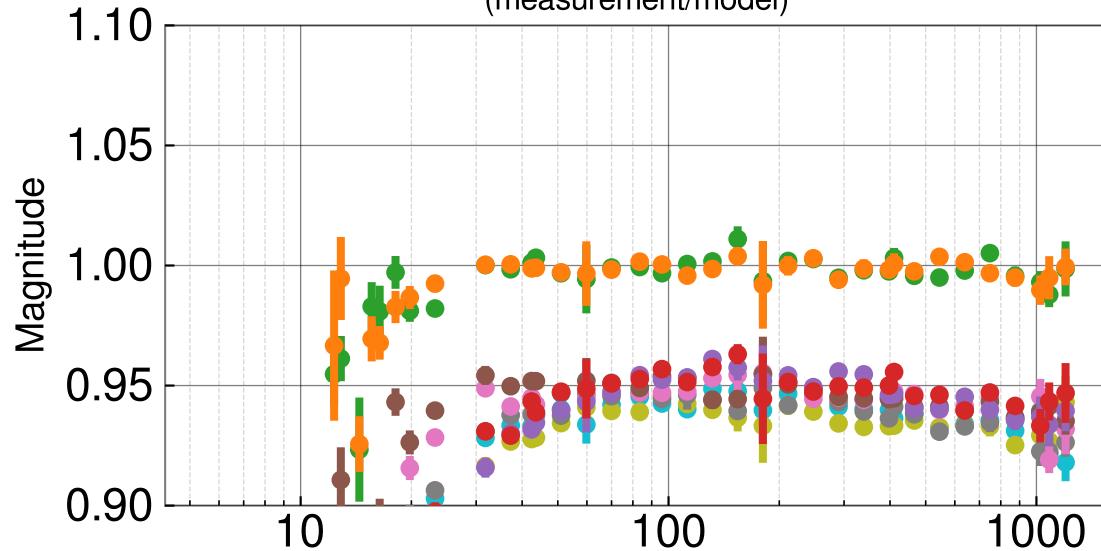
All fixed parameters drawn from `/ligo/groups/cal/H1/reports/20230621T211522Z/pydarm_H1.ini`



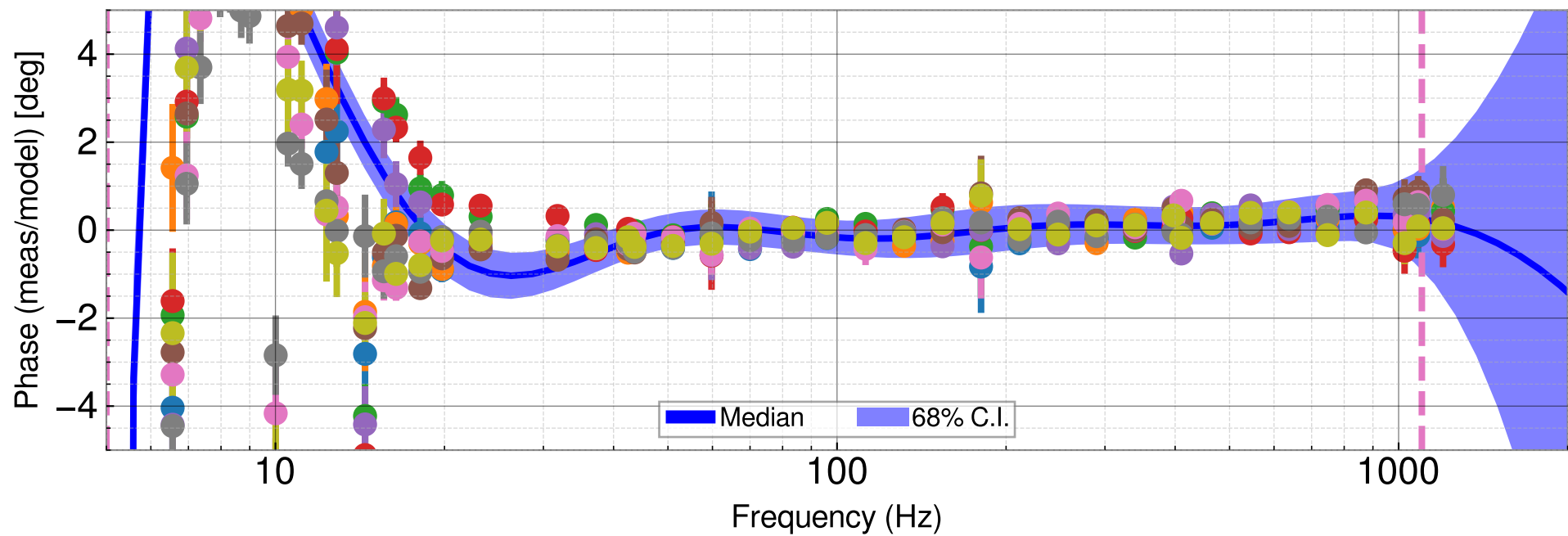
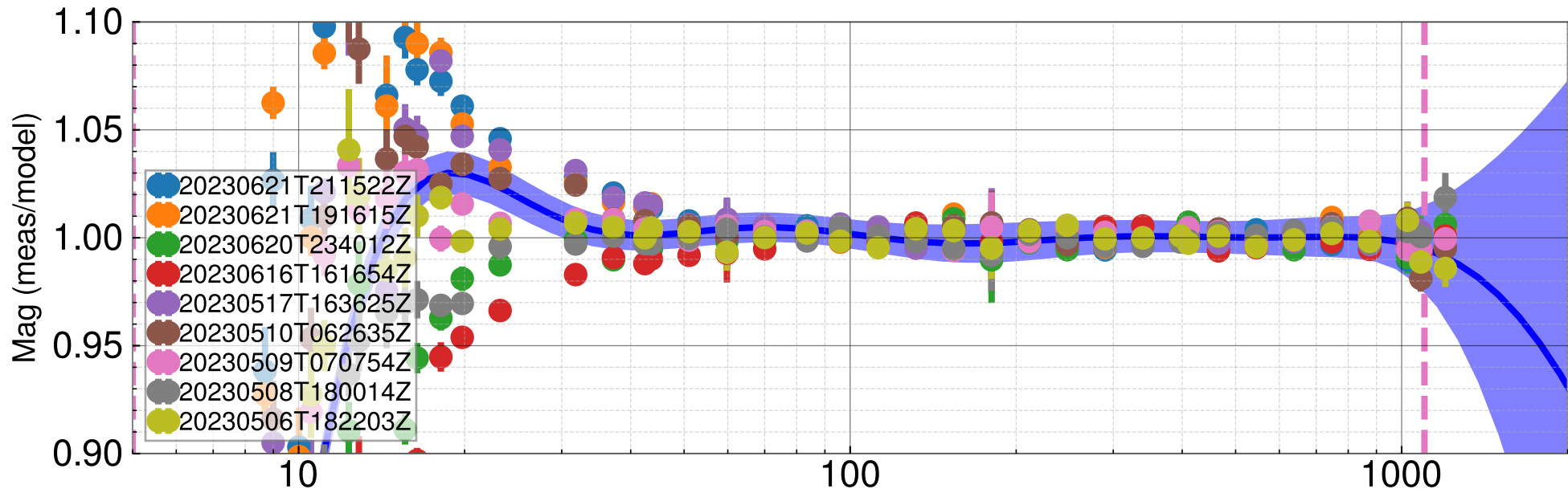
Optical response transfer functions
(scaled by $1/C_R$)



Optical response residuals
(measurement/model)



Sensing GPR

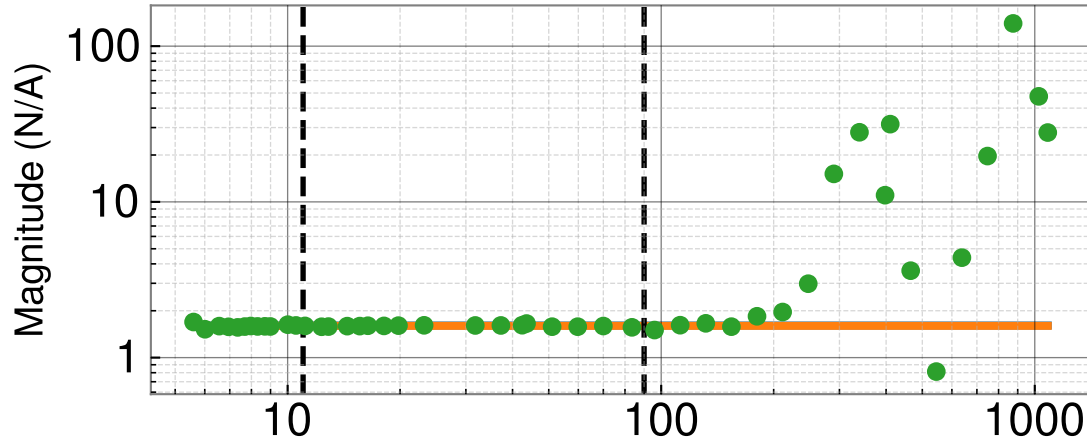


H1SUSEX L1 actuation model MCMC summary

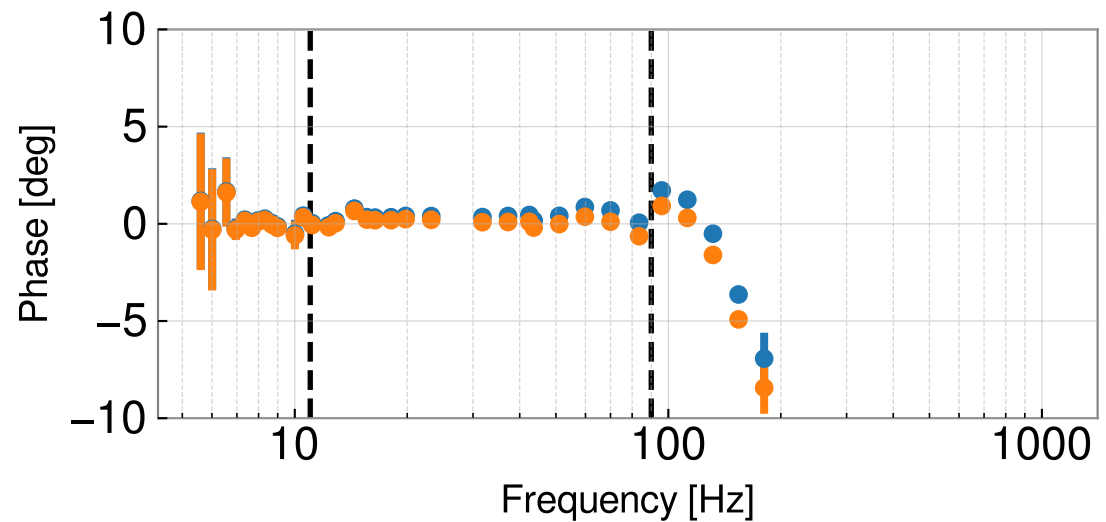
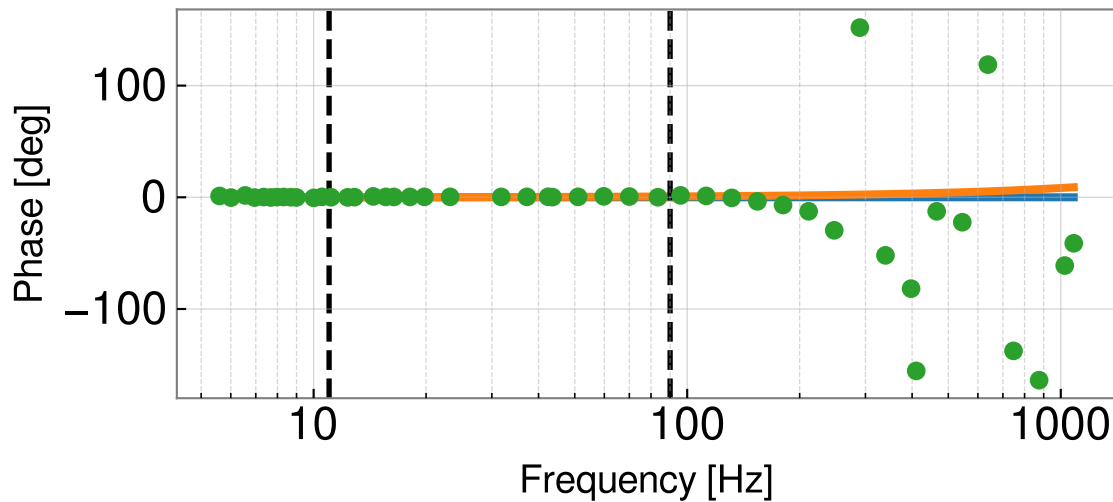
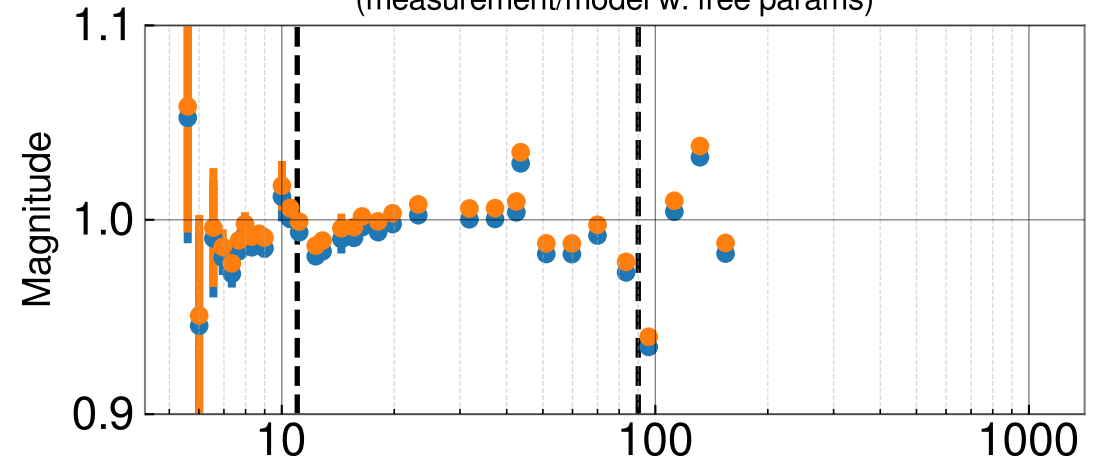
All fixed parameters drawn from /ligo/groups/cal/H1/reports/20230621T211522Z/pydarm_H1.ini



Actuation strength transfer functions
(scaled by H_{ref})

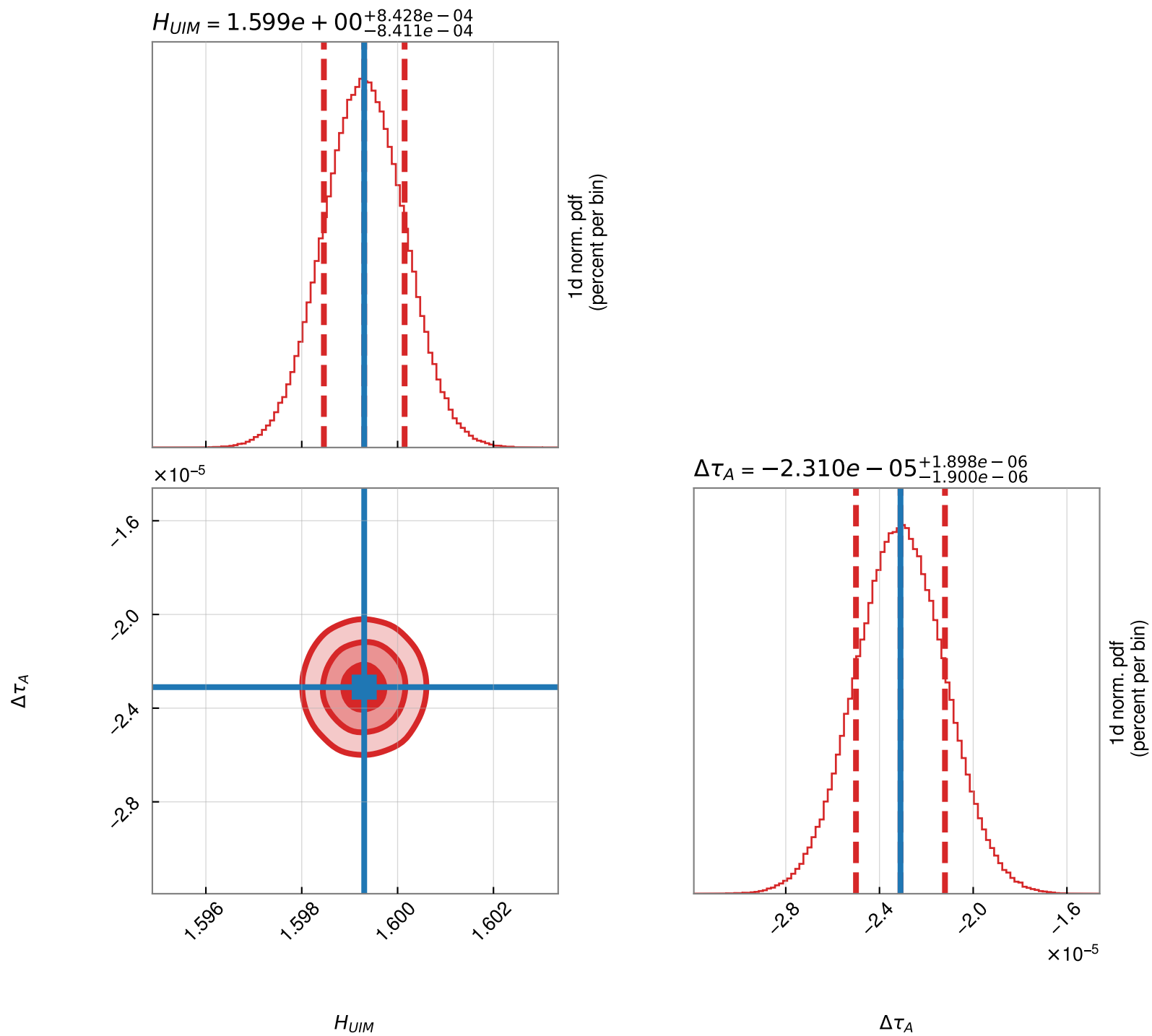
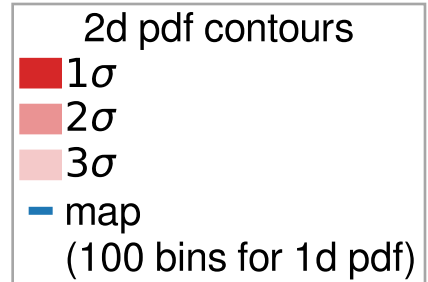


Actuation strength residuals
(measurement/model w. free params)



Parameter	(value +/-) value	+	-
Actuation Gain, Hau (N/A)	1.599	0.0008428 (0.05%)	0.0008411 (0.05%)
Residual time delay, tau_A (s)	-2.31e-05	1.898e-06 (-8.21%)	1.9e-06 (-8.22%)

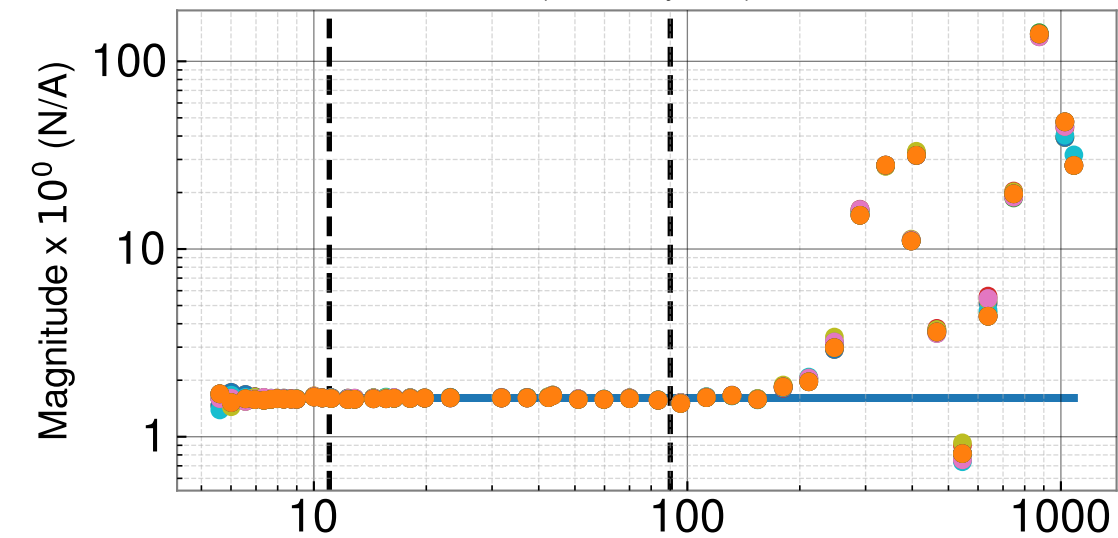
20230517T154837Z EX L1 actuation MCMC corner plot



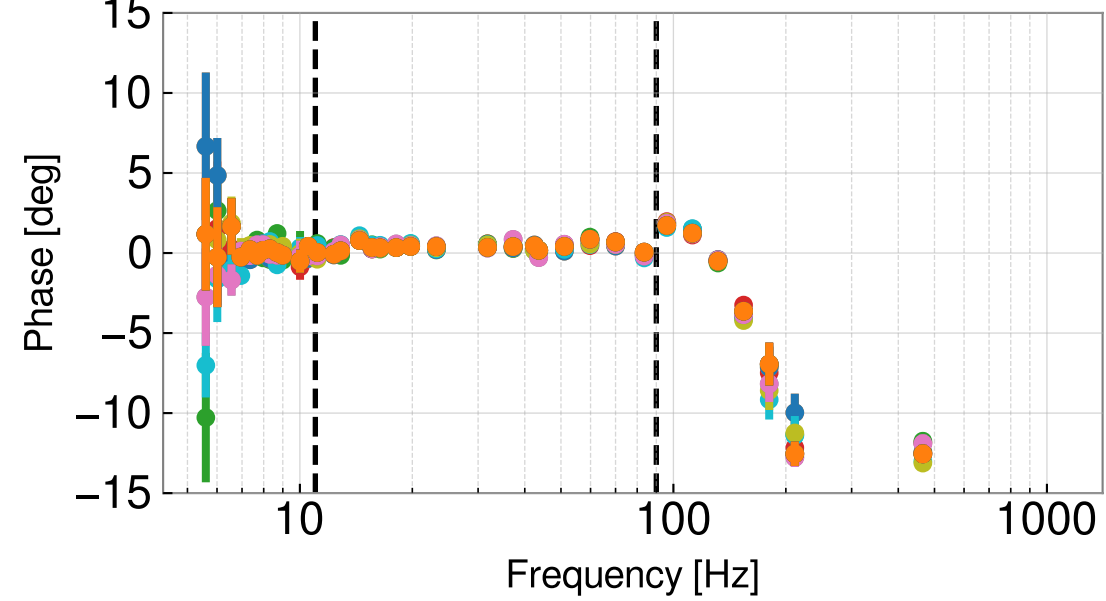
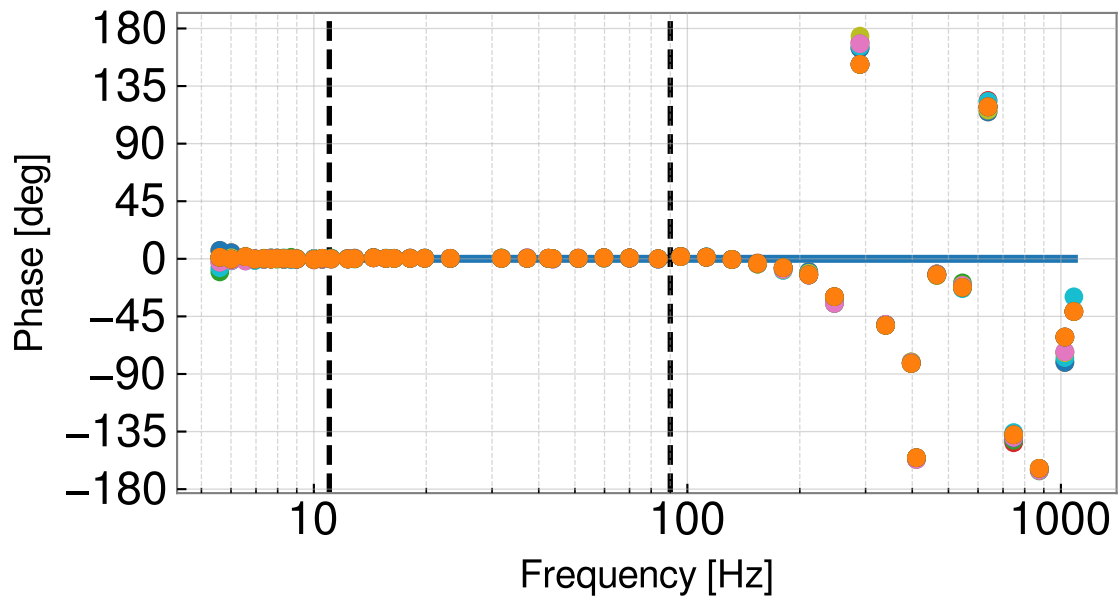
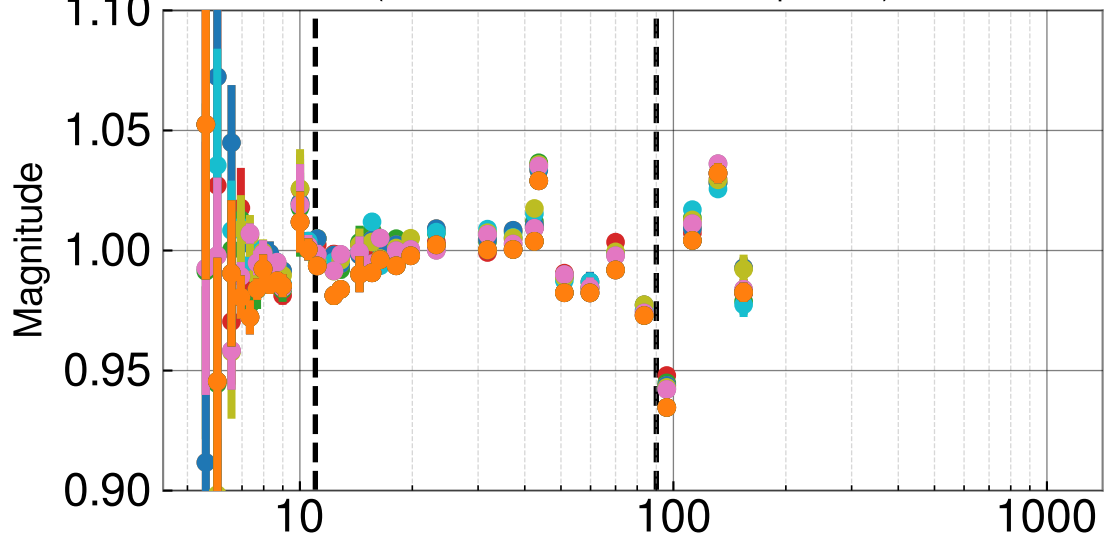
H1 SUSEX L1 actuation model history

- All fixed parameters drawn from <https://arxiv.org/abs/1708.01522> / <https://github.com/pydarm/h1-jira>
- 20230510T062635Z model
 - 20230517T154837Z measurement
 - 20230517T154837Z measurement
 - 20230517T154837Z measurement
 - 20230517T154837Z measurement
 - 20230517T154837Z measurement
 - 20230509T062006Z measurement
 - 20230509T062006Z measurement
 - 20230508T171226Z measurement
 - 20230506T173415Z measurement
 - 20230505T165823Z measurement
 - 20230505T165823Z measurement
 - 20230505T003821Z measurement
 - 20230504T050304Z measurement
 - MCMC Fit Range: 11 Hz to 90 Hz

Actuation strength transfer functions
(scaled by H_{ref})



Actuation strength residuals
(measurement/model w. free params)

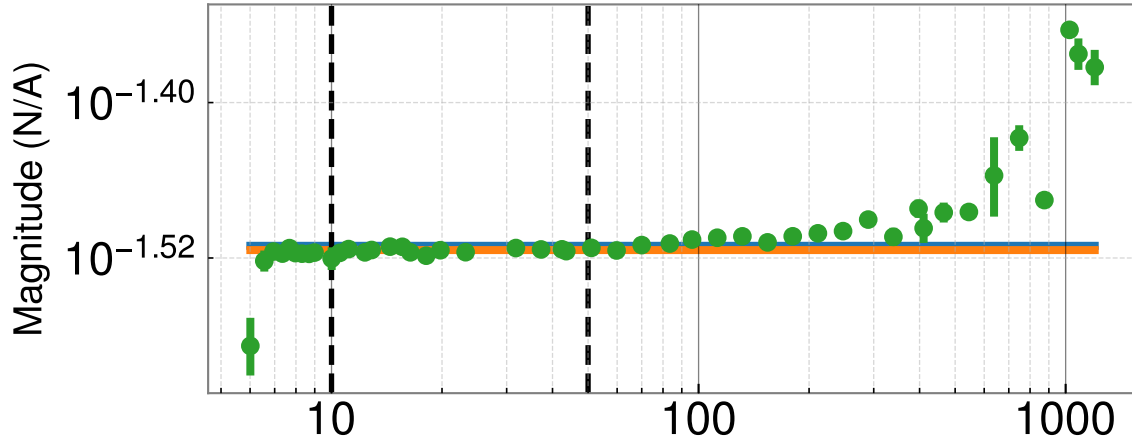


H1SUSEX L2 actuation model MCMC summary

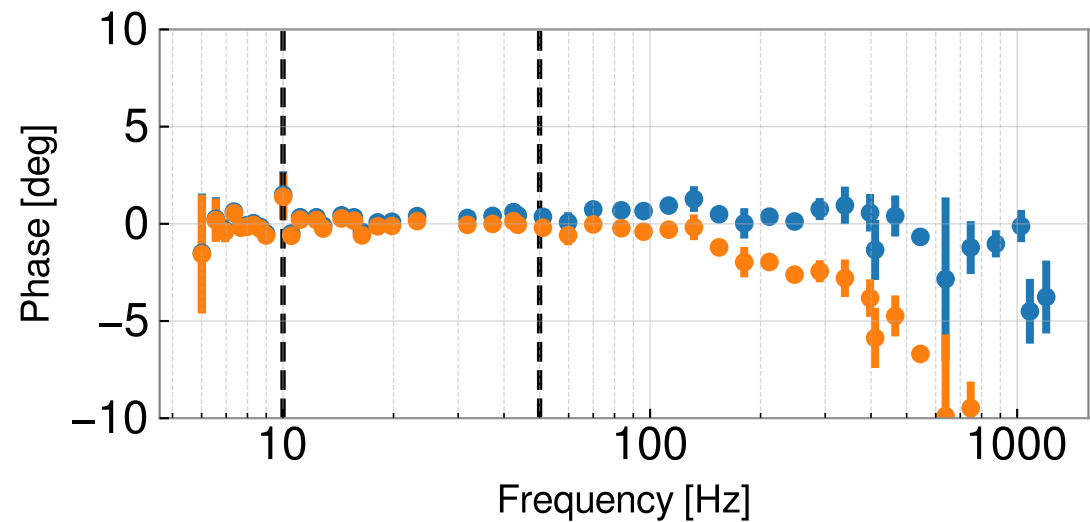
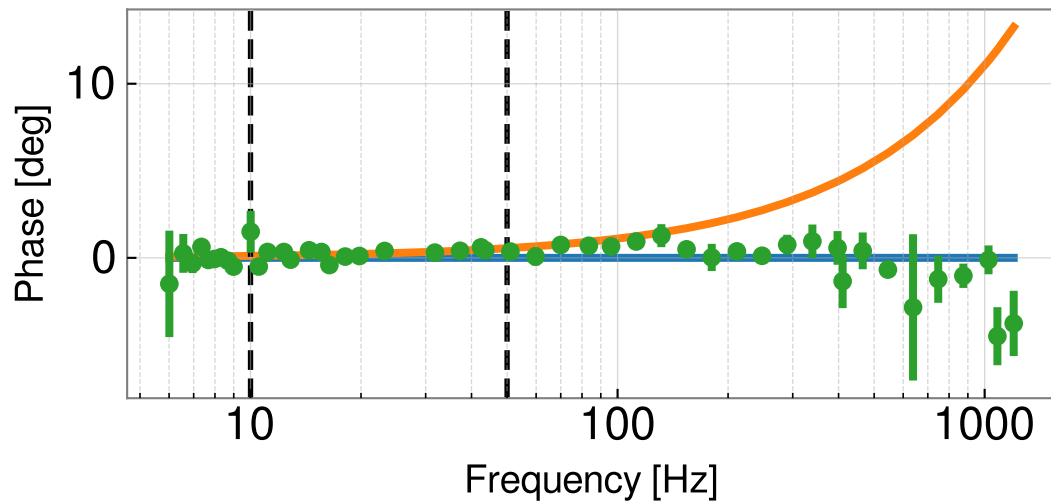
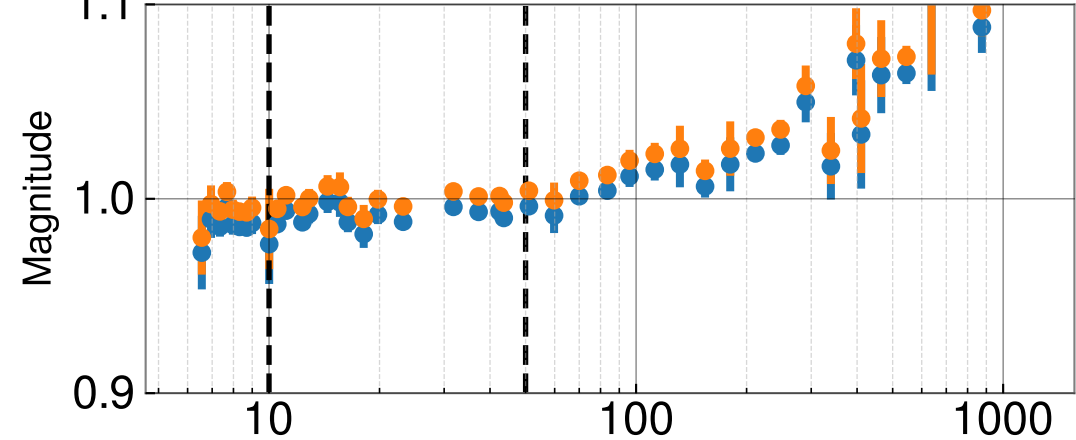
All fixed parameters drawn from /ligo/groups/cal/H1/reports/20230621T211522Z/pydarm_H1.ini



Actuation strength transfer functions
(scaled by H_{ref})

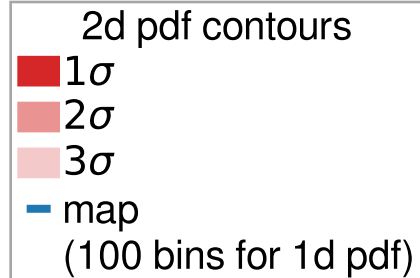


Actuation strength residuals
(measurement/model w. free params)

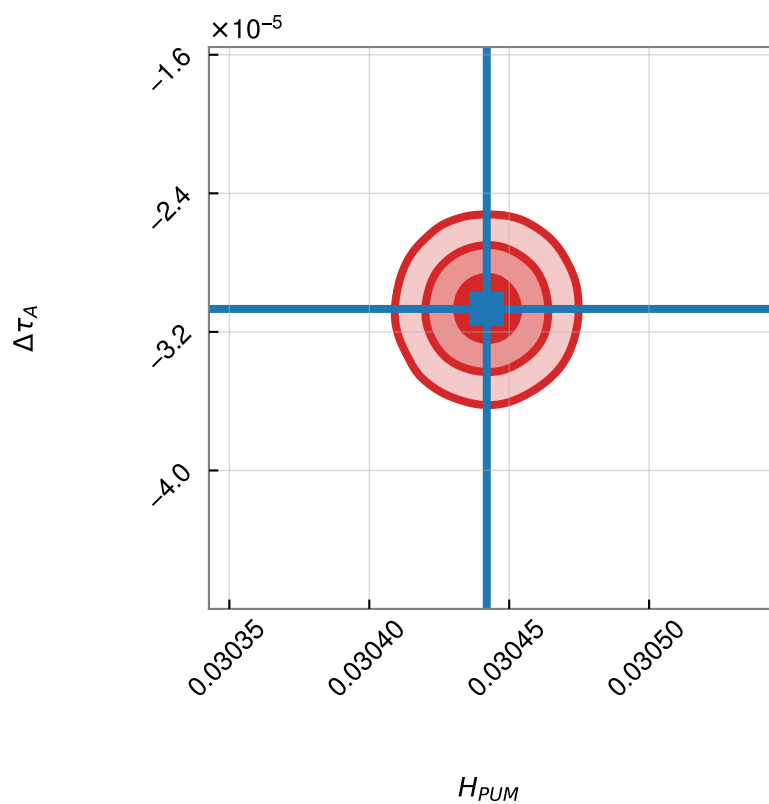
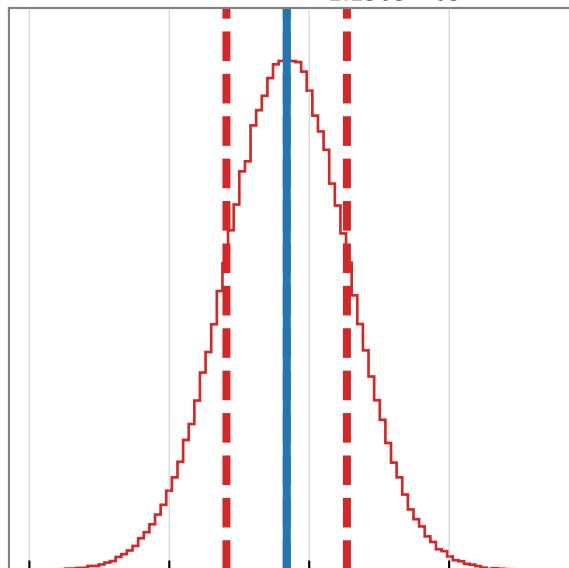


Parameter	(value +/-) value	+	-
Actuation Gain, Hap (N/A)	0.03044	2.15e-05 (0.07%)	2.156e-05 (0.07%)
Residual time delay, tau_A (s)	-3.067e-05	3.6e-06 (-11.73%)	3.586e-06 (-11.69%)

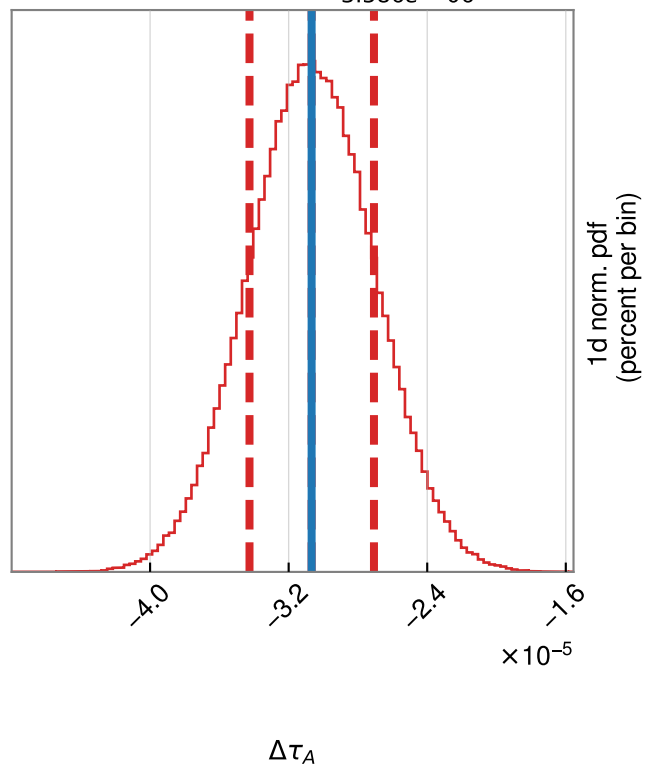
20230517T161131Z EX L2 actuation MCMC corner plot



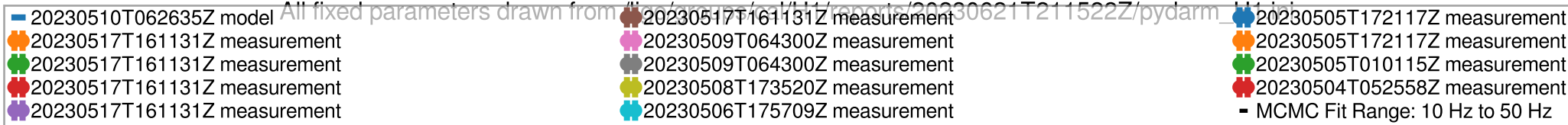
$$H_{PUM} = 3.044e - 02^{+2.150e - 05}_{-2.156e - 05}$$



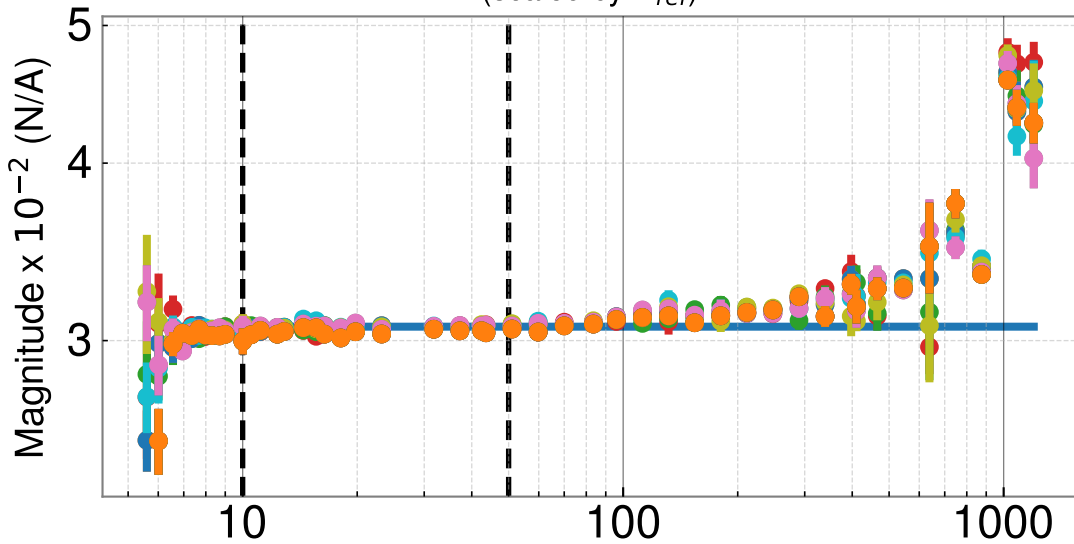
$$\Delta\tau_A = -3.067e - 05^{+3.600e - 06}_{-3.586e - 06}$$



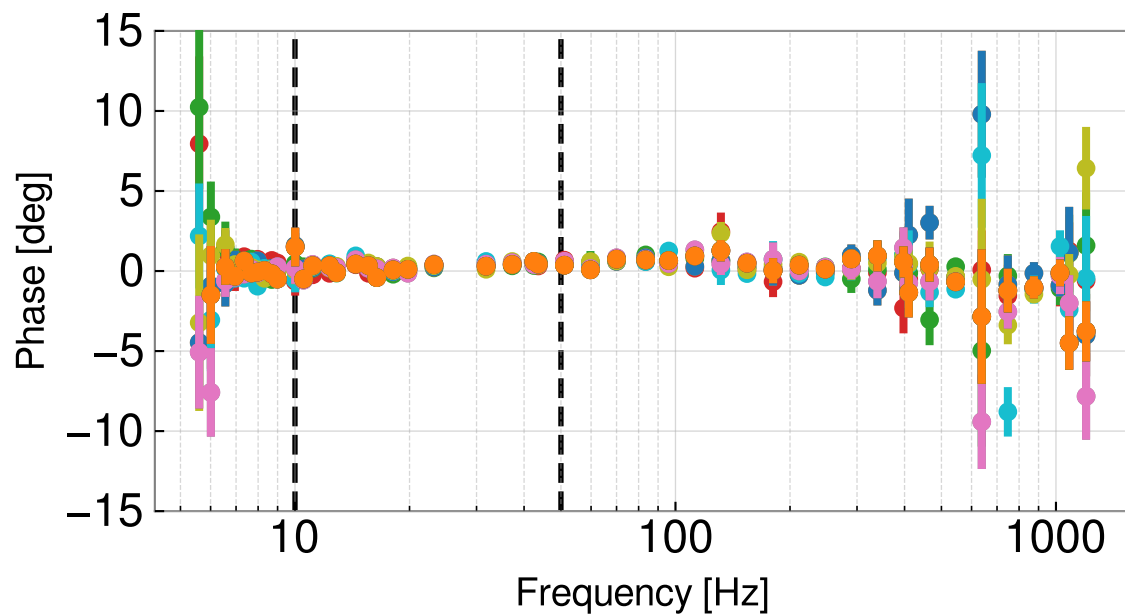
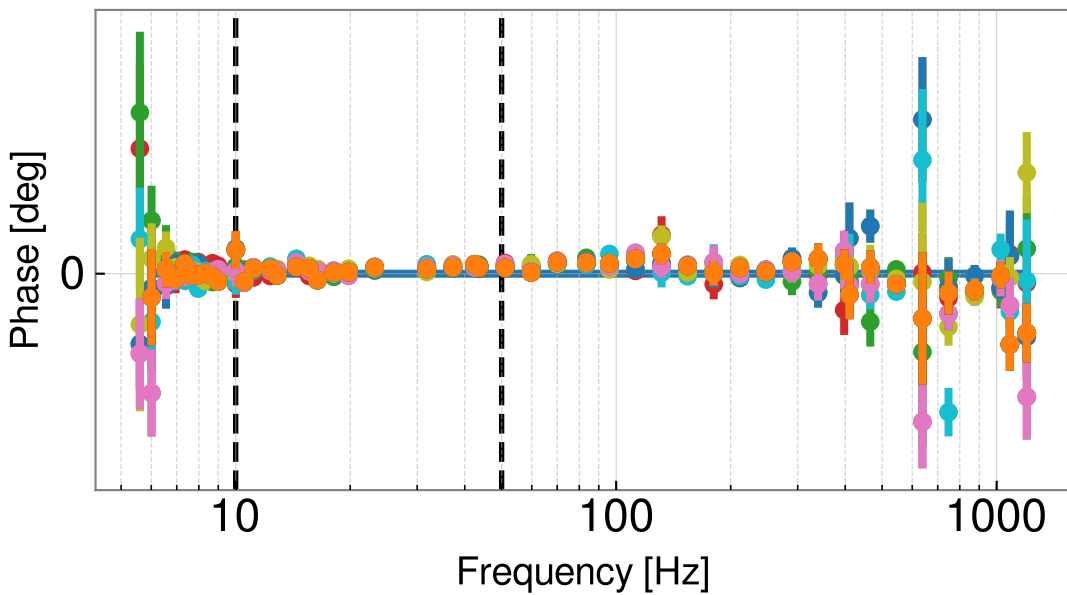
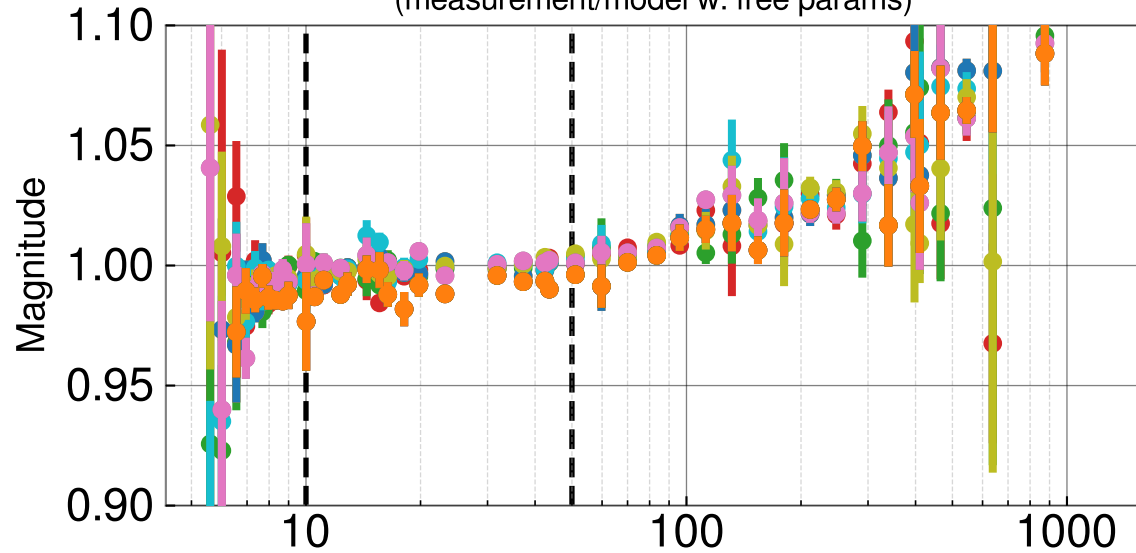
H1 SUSEX L2 actuation model history



Actuation strength transfer functions
(scaled by H_{ref})



Actuation strength residuals
(measurement/model w. free params)

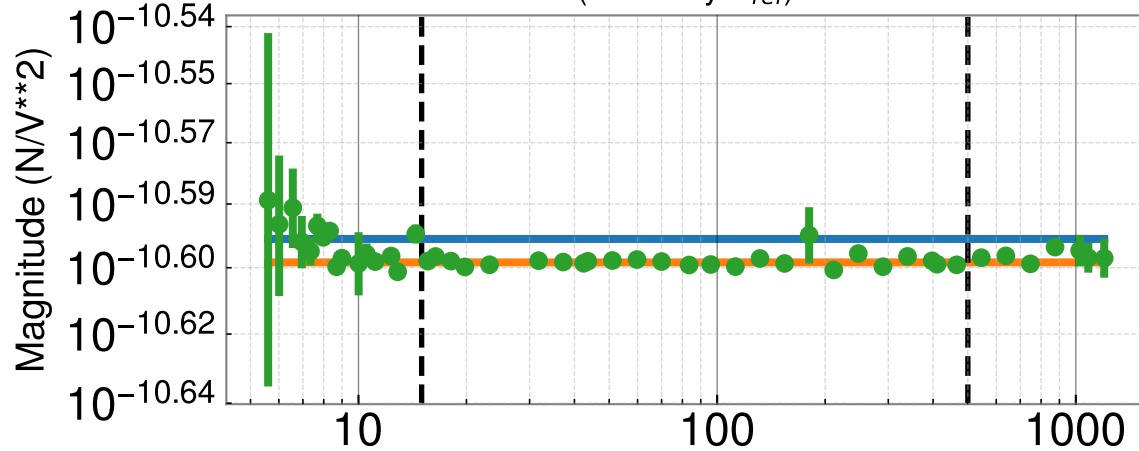


H1SUSEX L3 actuation model MCMC summary

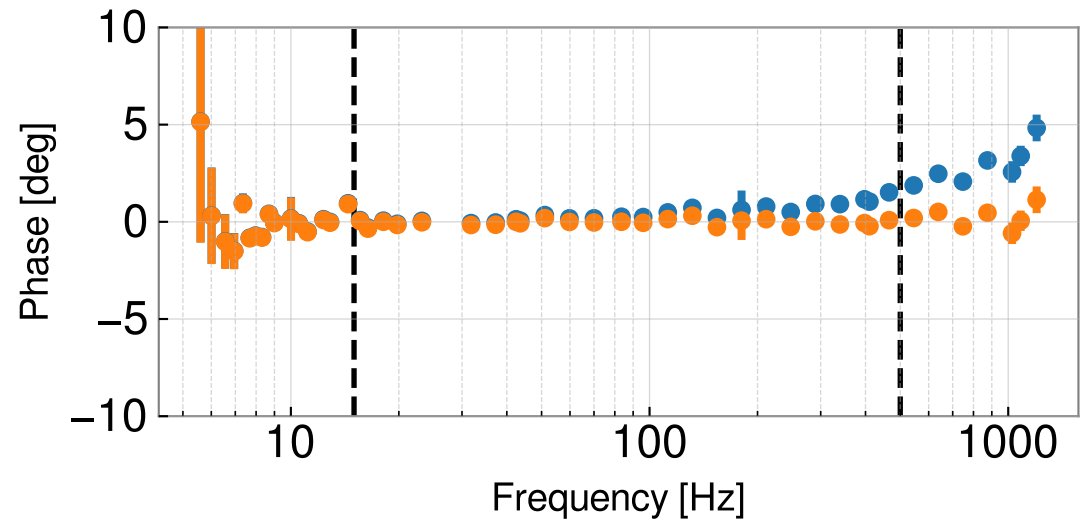
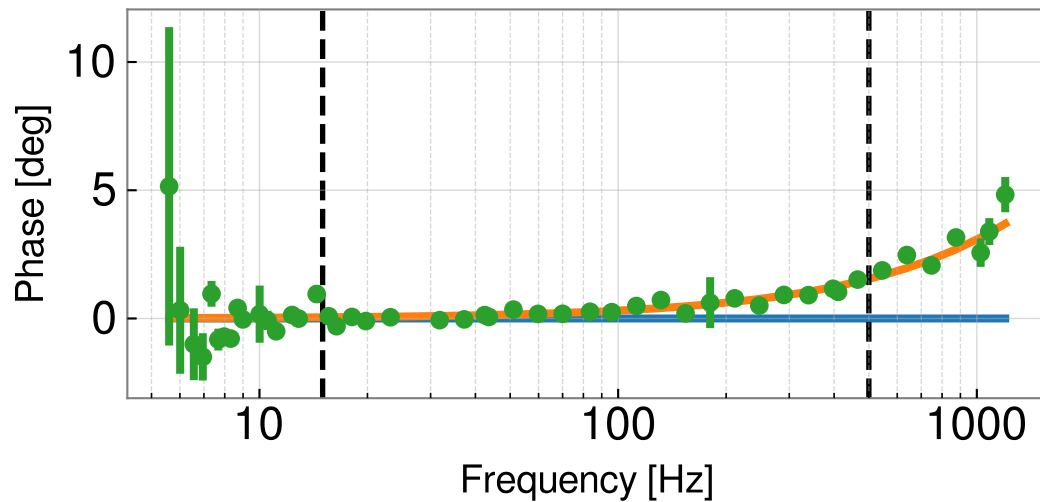
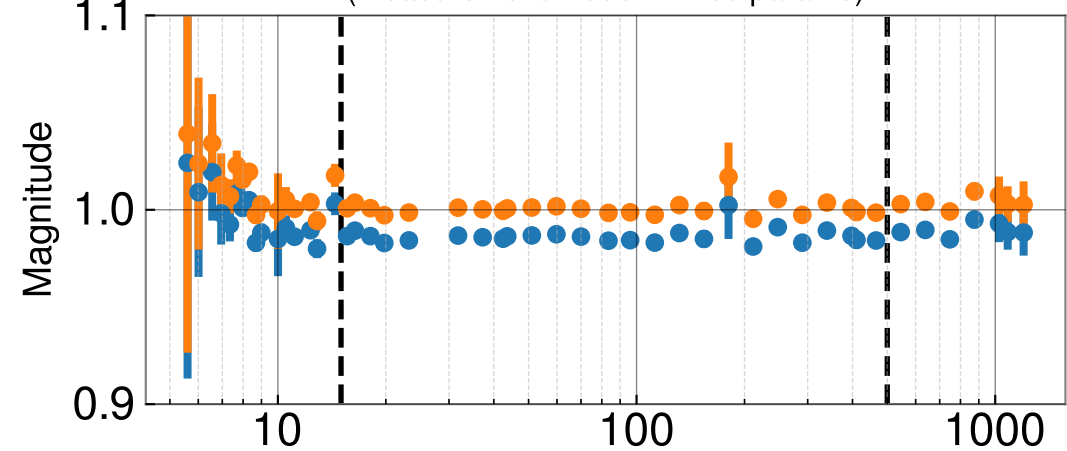
All fixed parameters drawn from /ligo/groups/cal/H1/reports/20230621T211522Z/pydarm_H1.ini



Actuation strength transfer functions
(scaled by H_{ref})

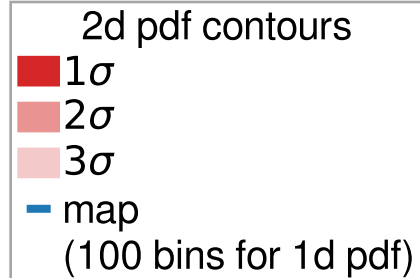


Actuation strength residuals
(measurement/model w. free params)

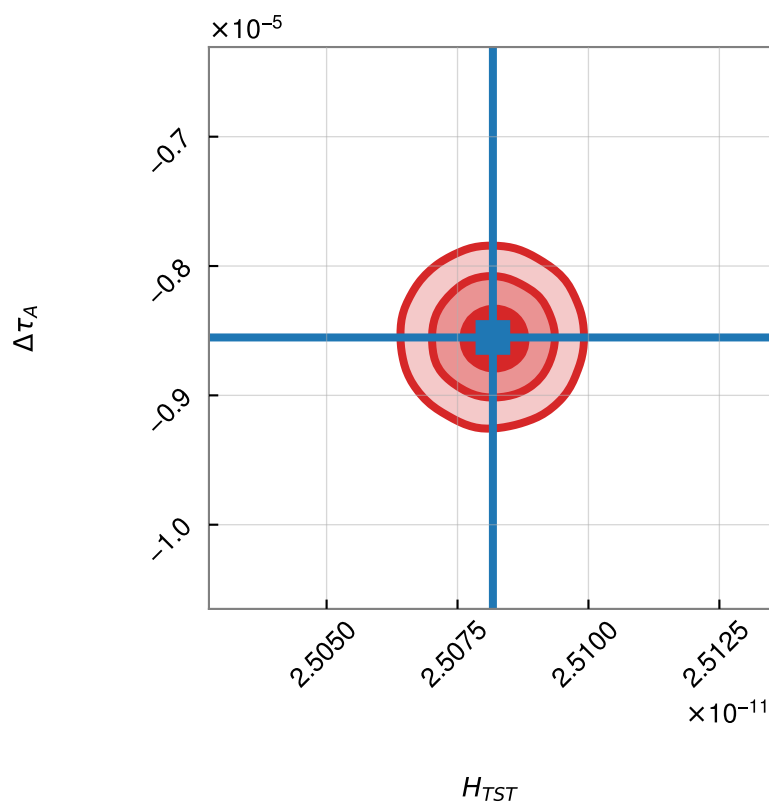
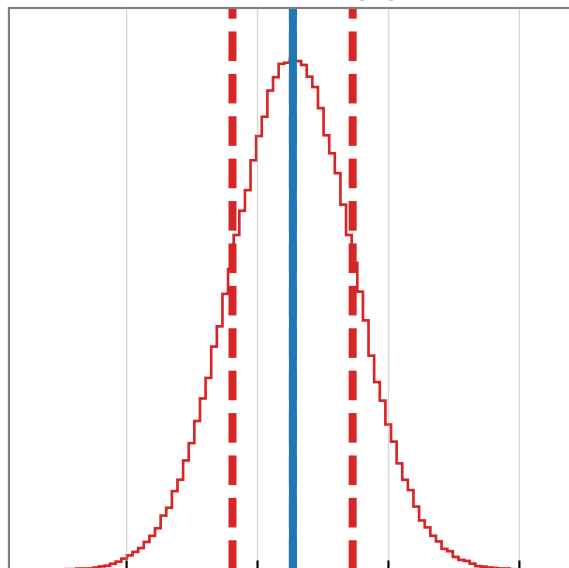


Parameter	(value +/-) value	+	-
Actuation Gain, Hat (N/V**2)	2.508e-11	1.141e-14 (0.05%)	1.154e-14 (0.05%)
Residual time delay, tau_A (s)	-8.552e-06	4.607e-07 (-5.39%)	4.574e-07 (-5.35%)

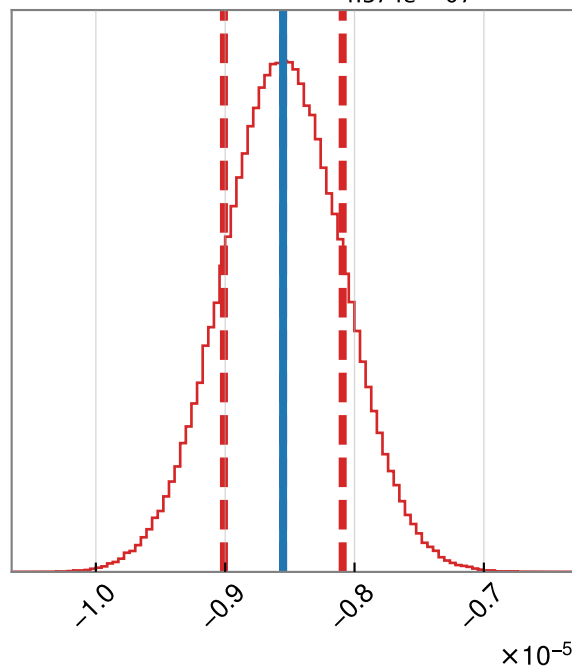
20230517T163635Z EX L3 actuation MCMC corner plot



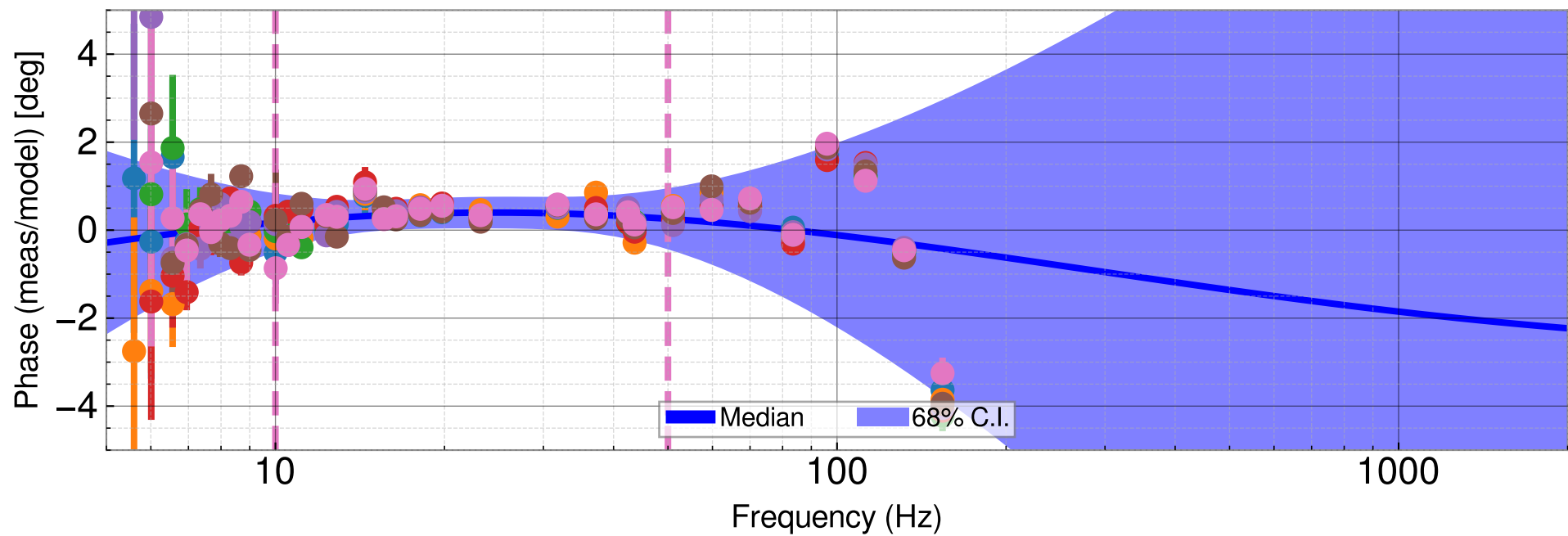
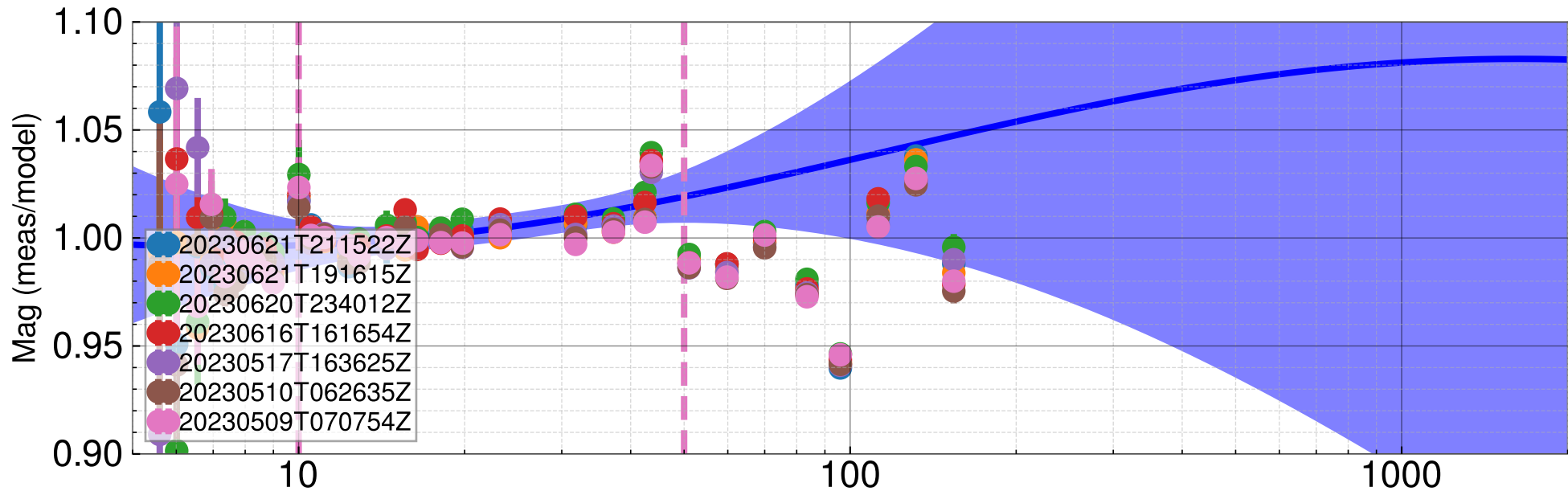
$$H_{TST} = 2.508e - 11^{+1.141e - 14}_{-1.154e - 14}$$



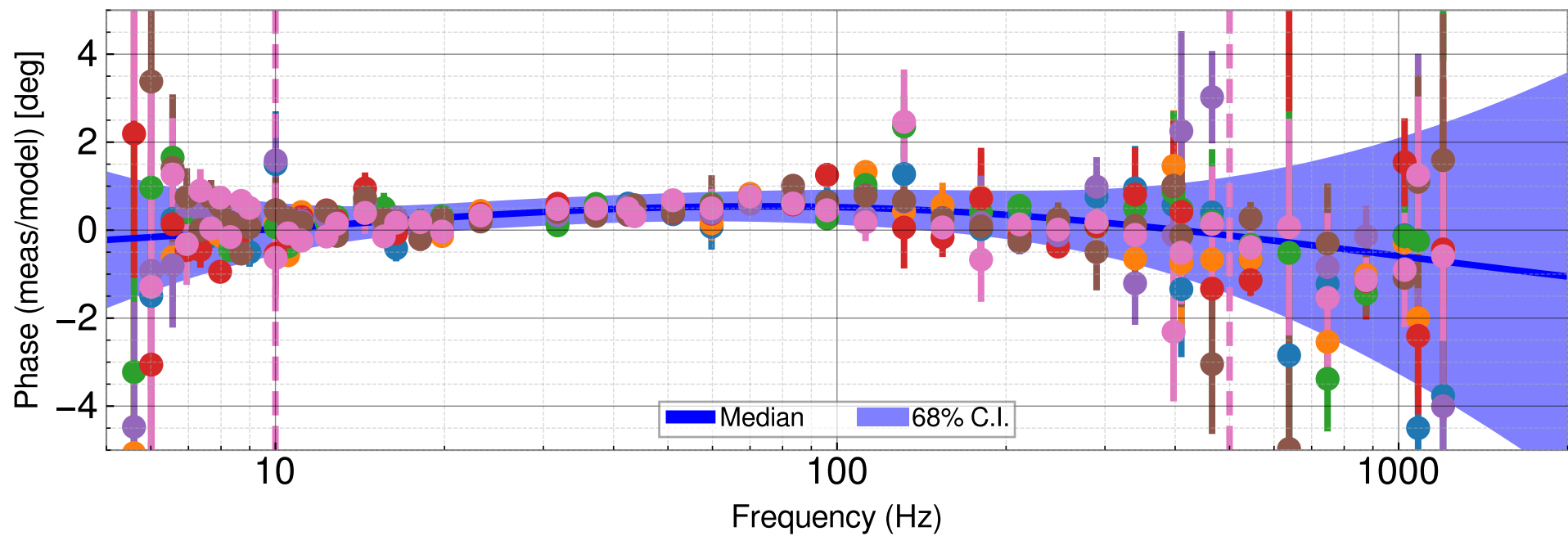
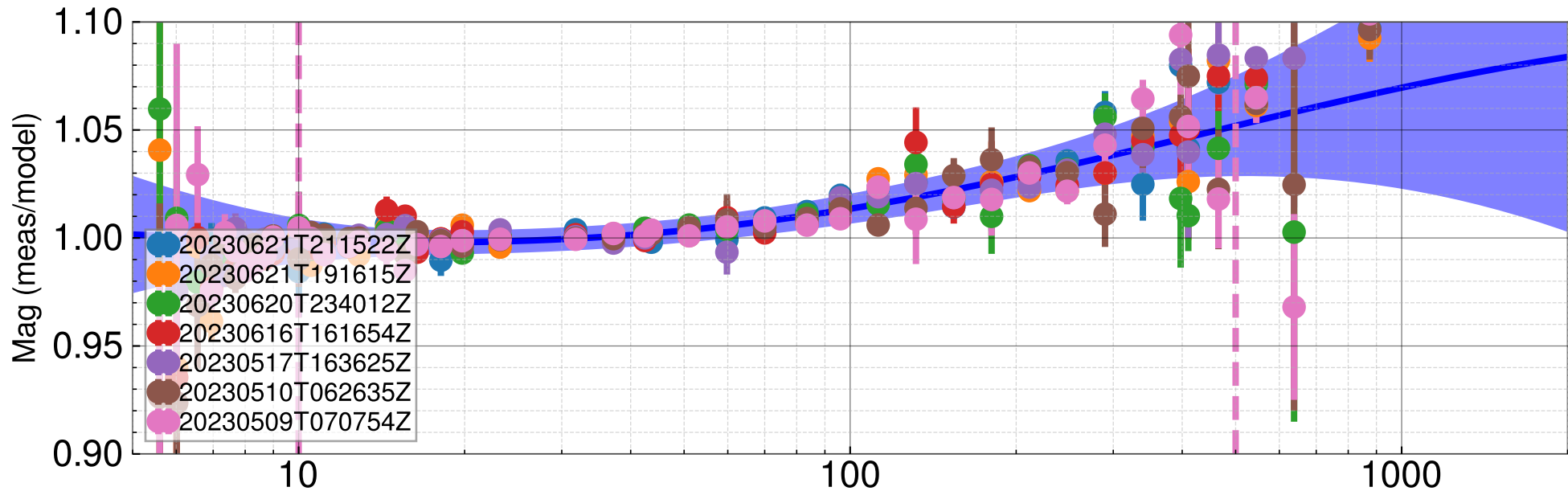
$$\Delta\tau_A = -8.552e - 06^{+4.607e - 07}_{-4.574e - 07}$$



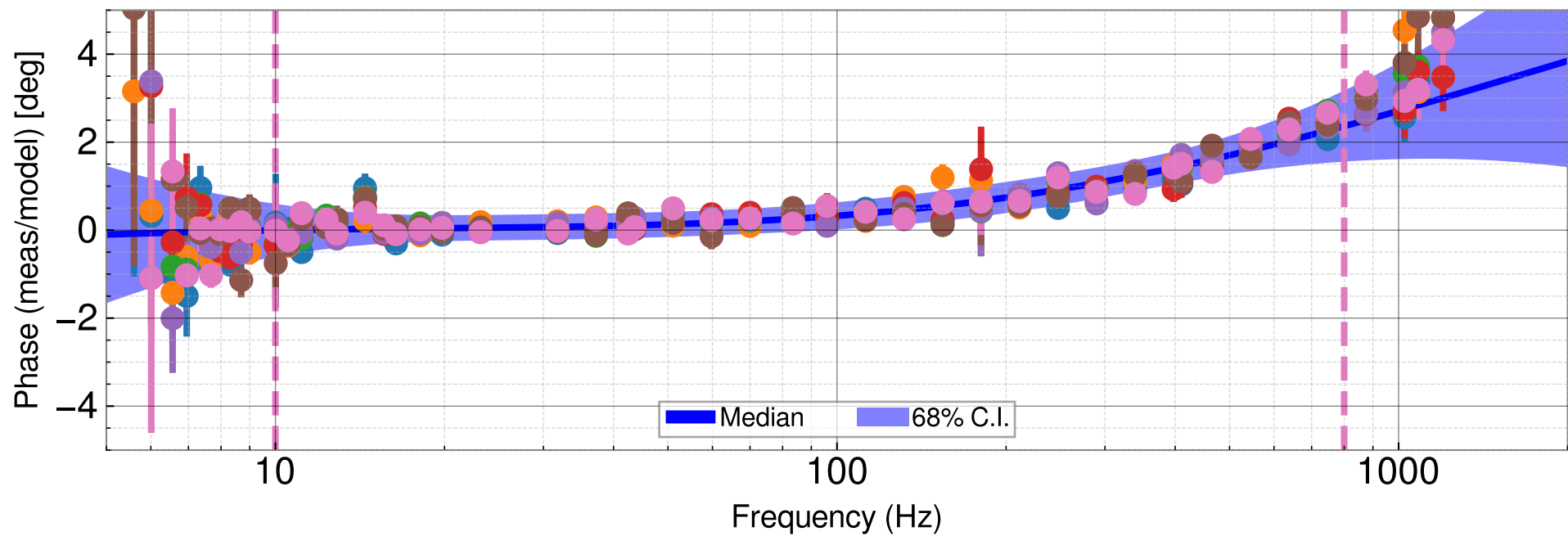
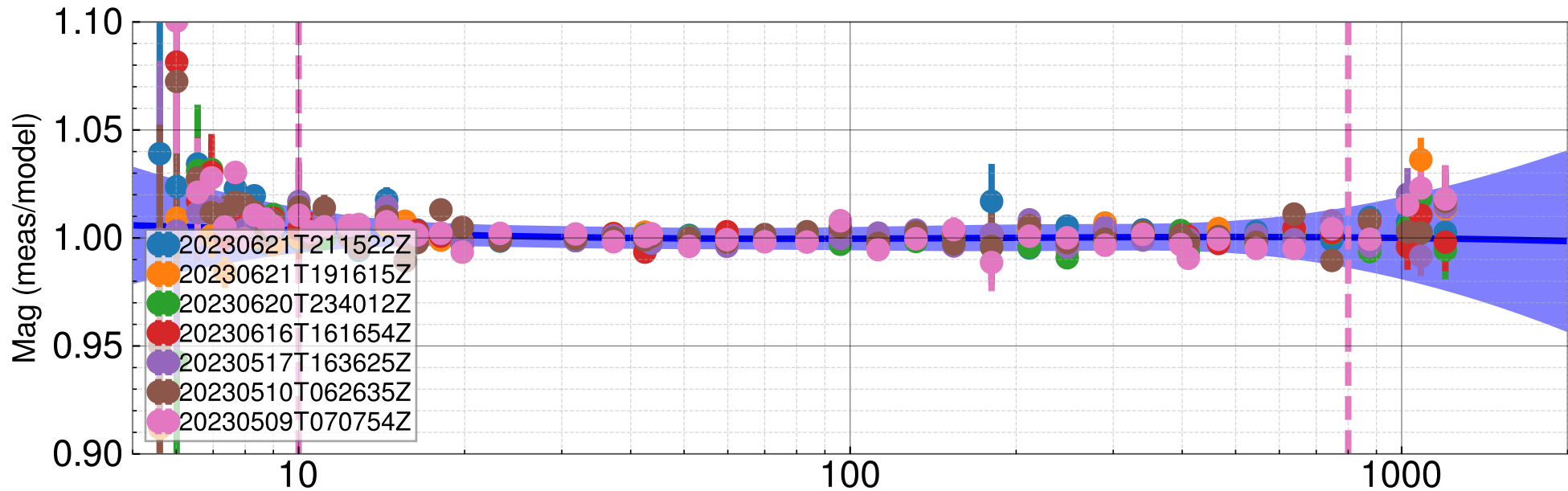
Actuation/L1/EX GPR



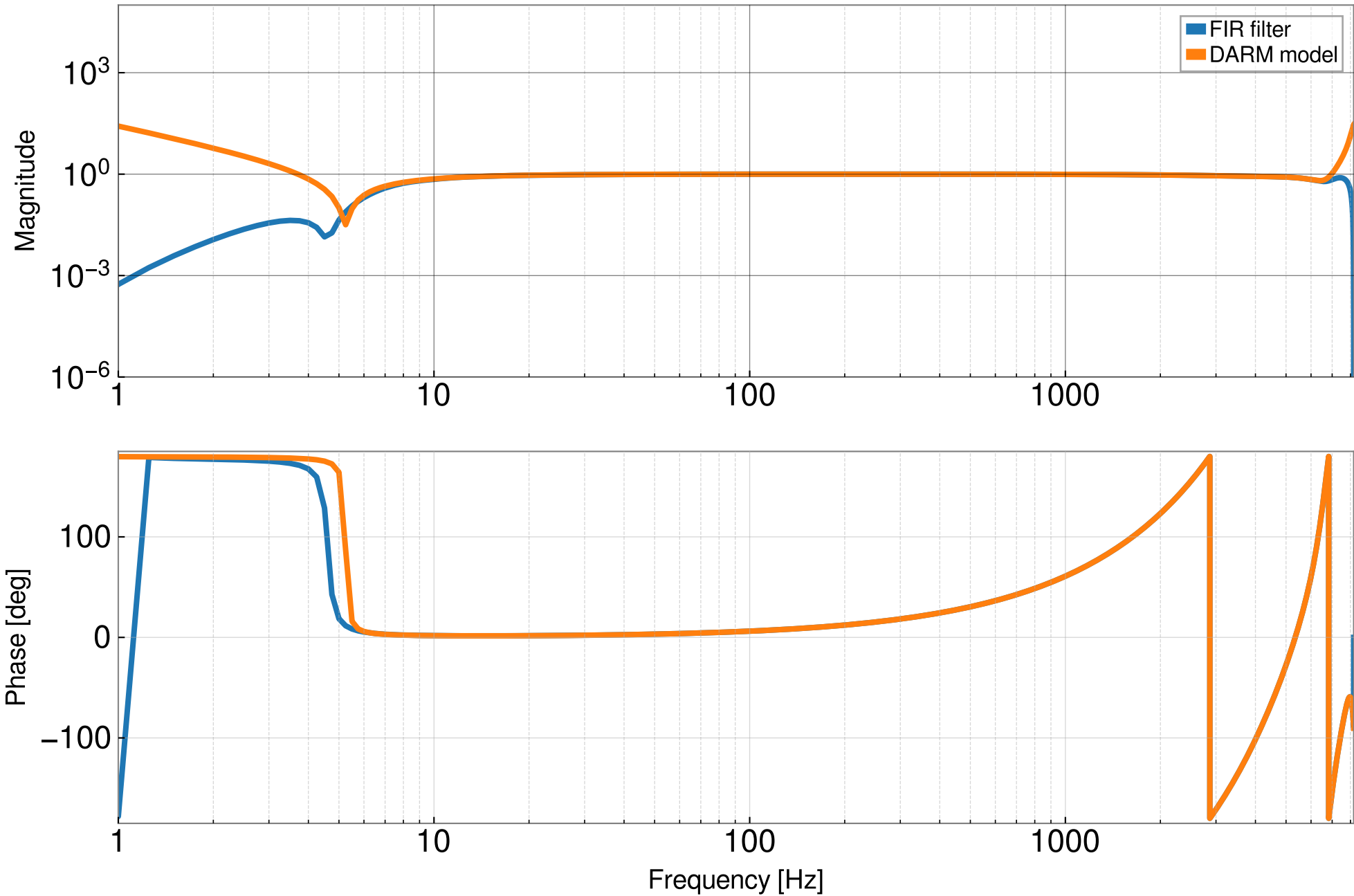
Actuation/L2/EX GPR



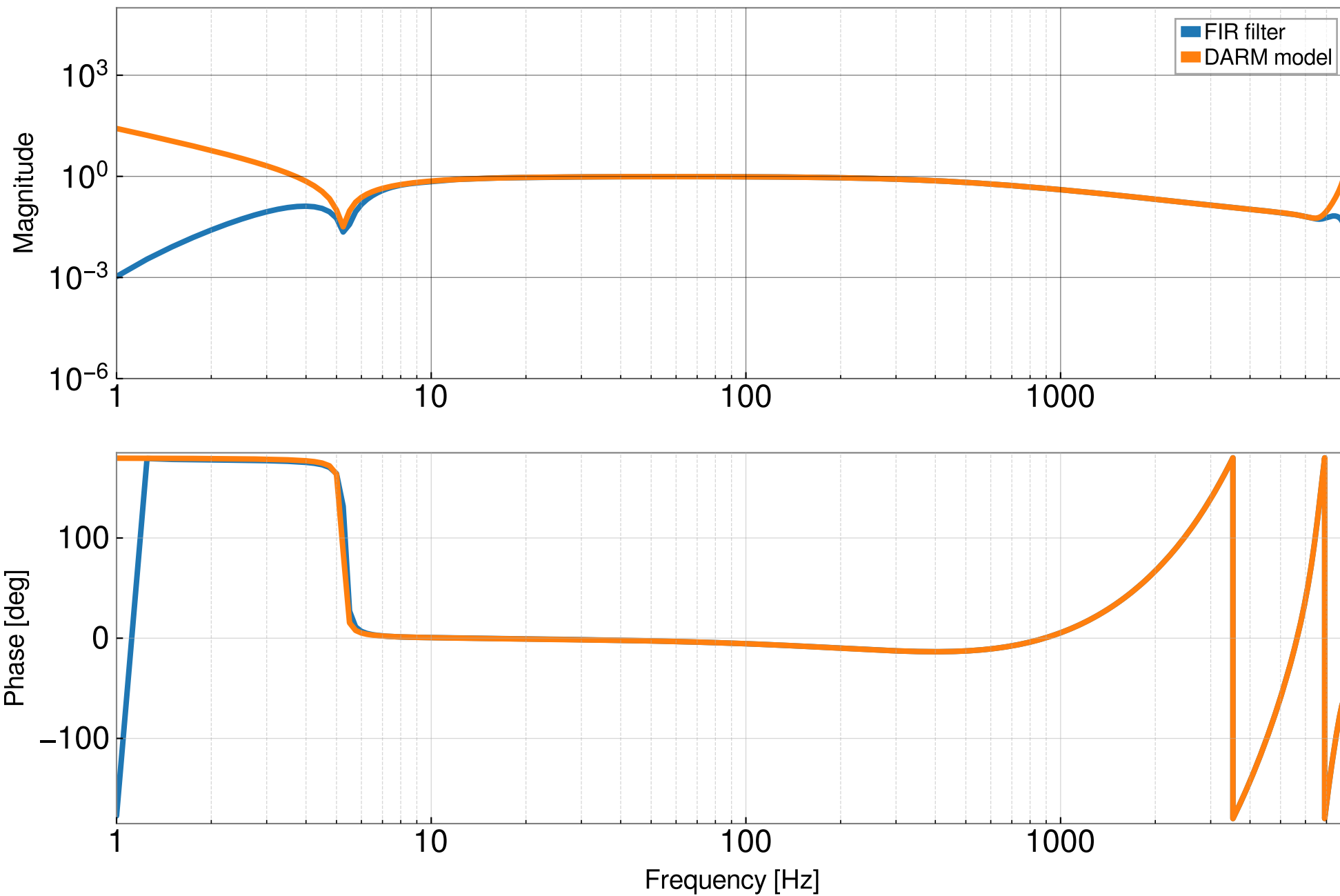
Actuation/L3/EX GPR



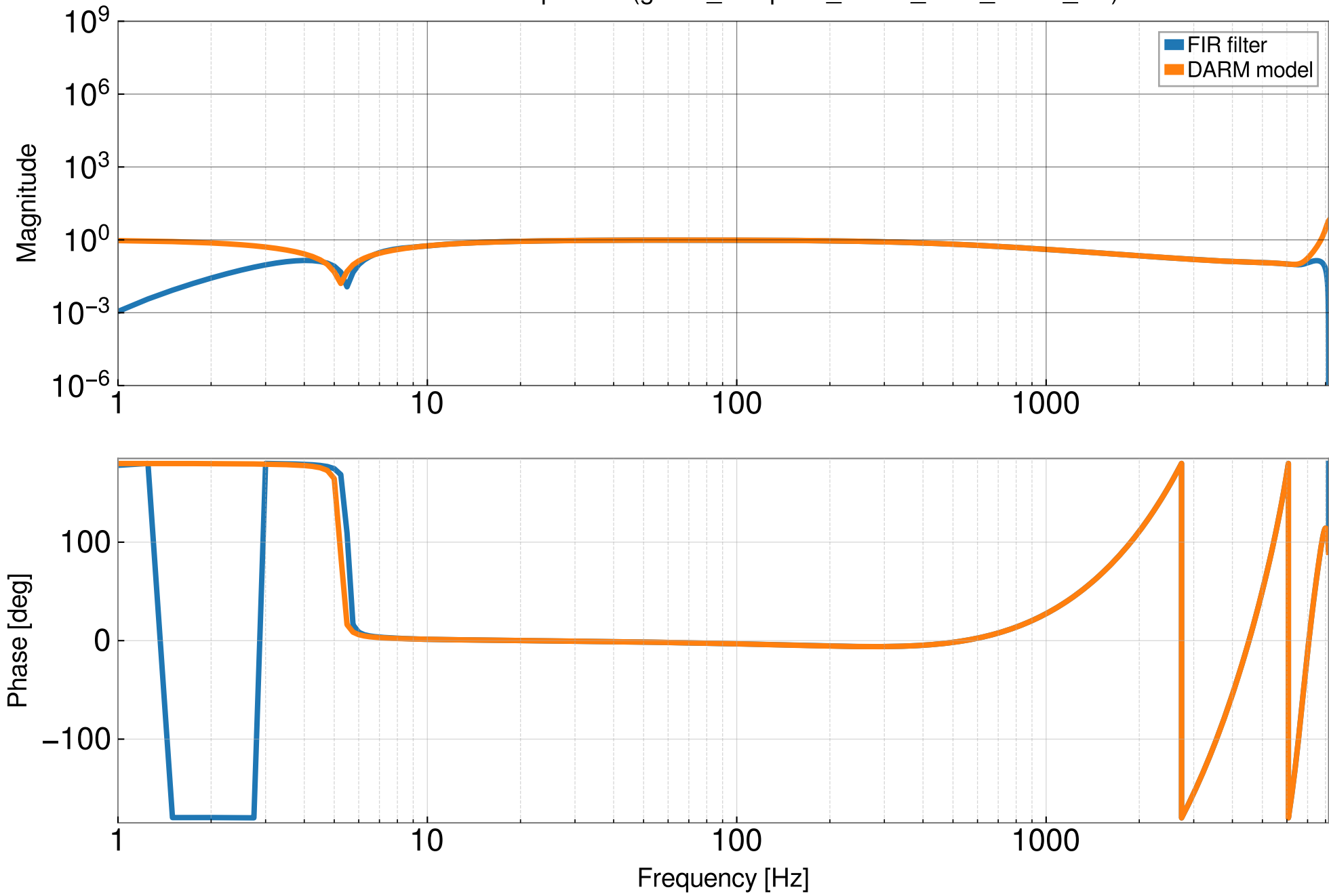
Residual corrections comparison (gstlal_compute_strain_C00_filters_H1)



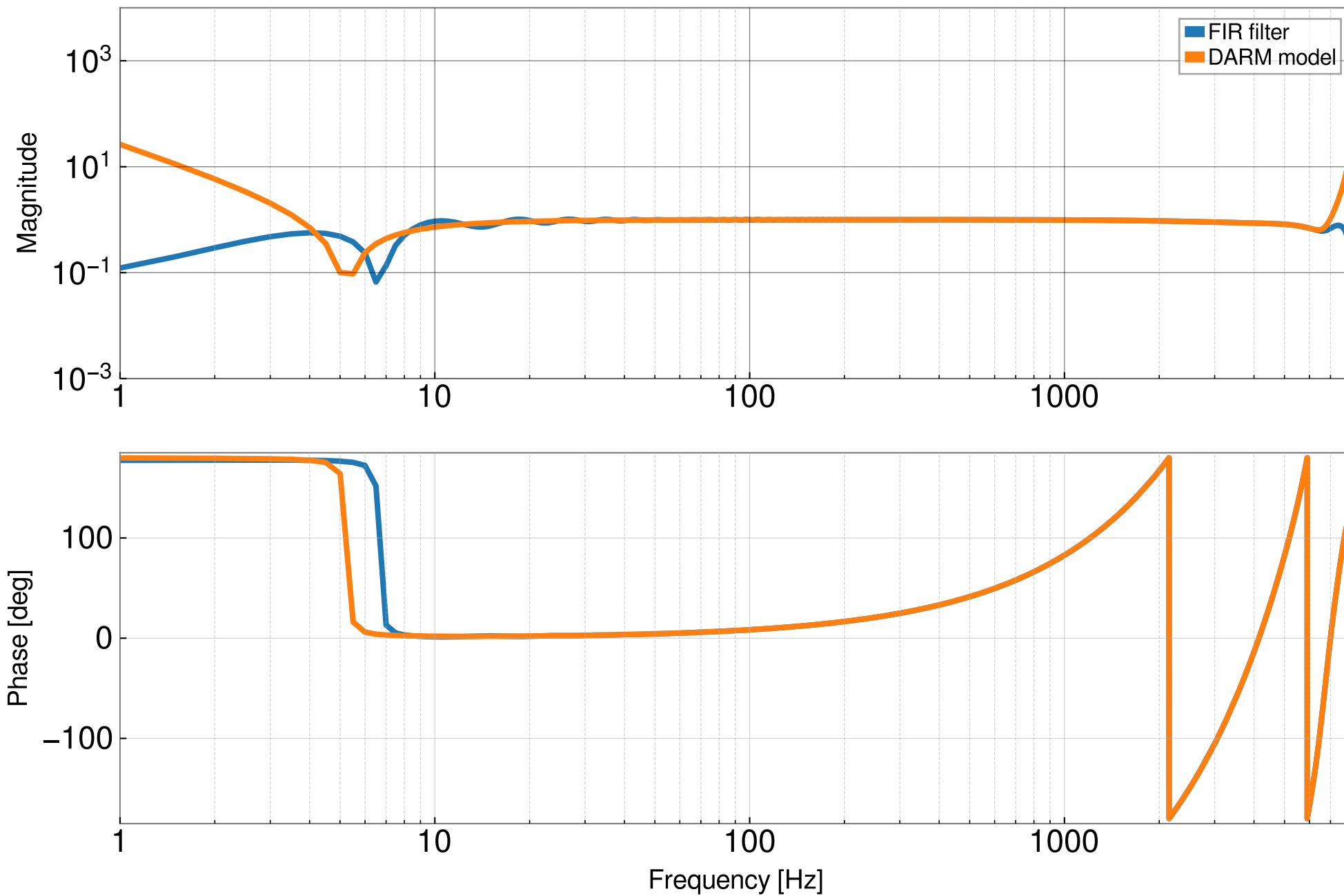
Res Corr No CC Pole comparison (gstlal_compute_strain_C00_filters_H1)



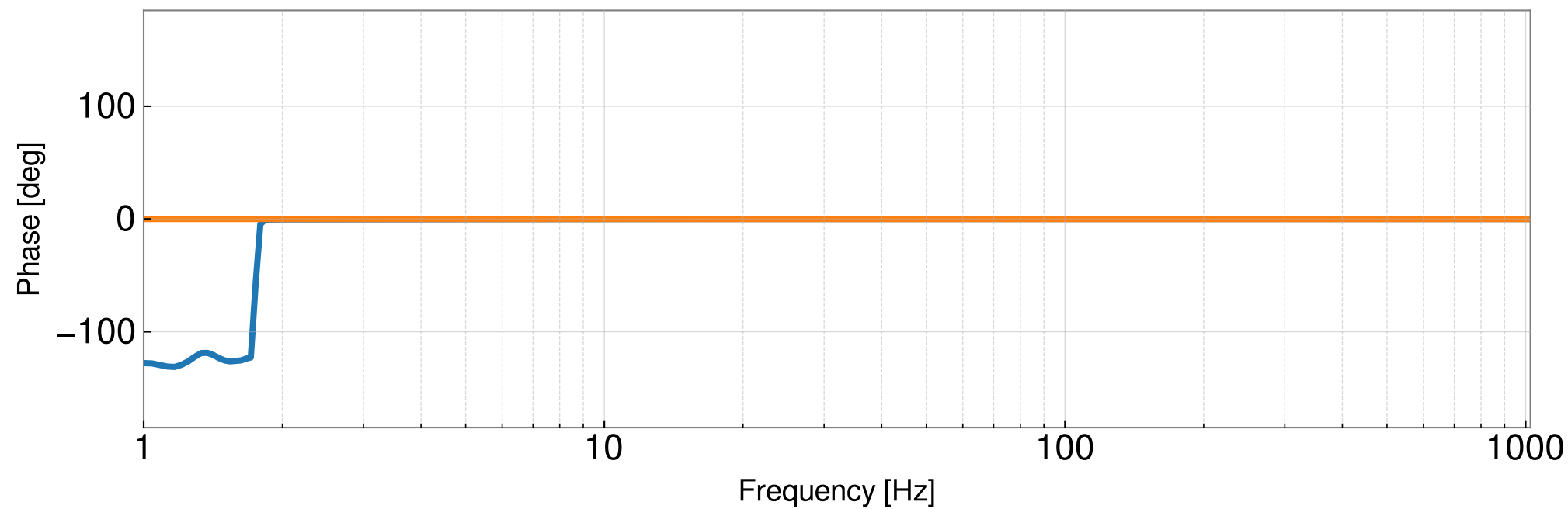
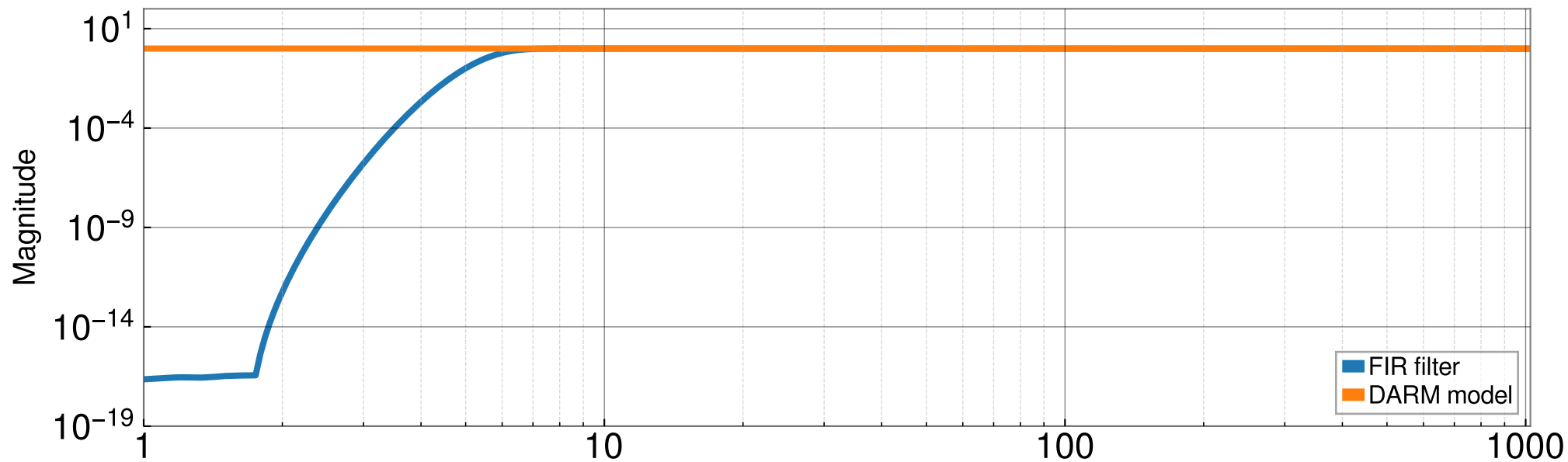
Res Corr No Pole comparison (gstlal_compute_strain_C00_filters_H1)



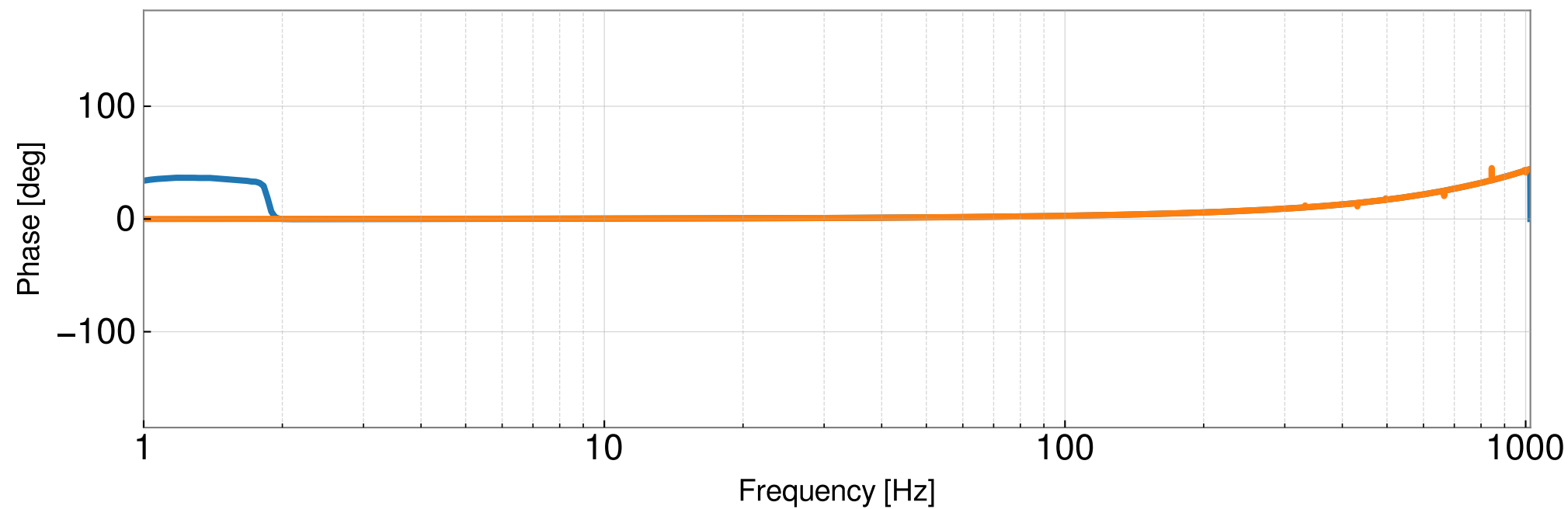
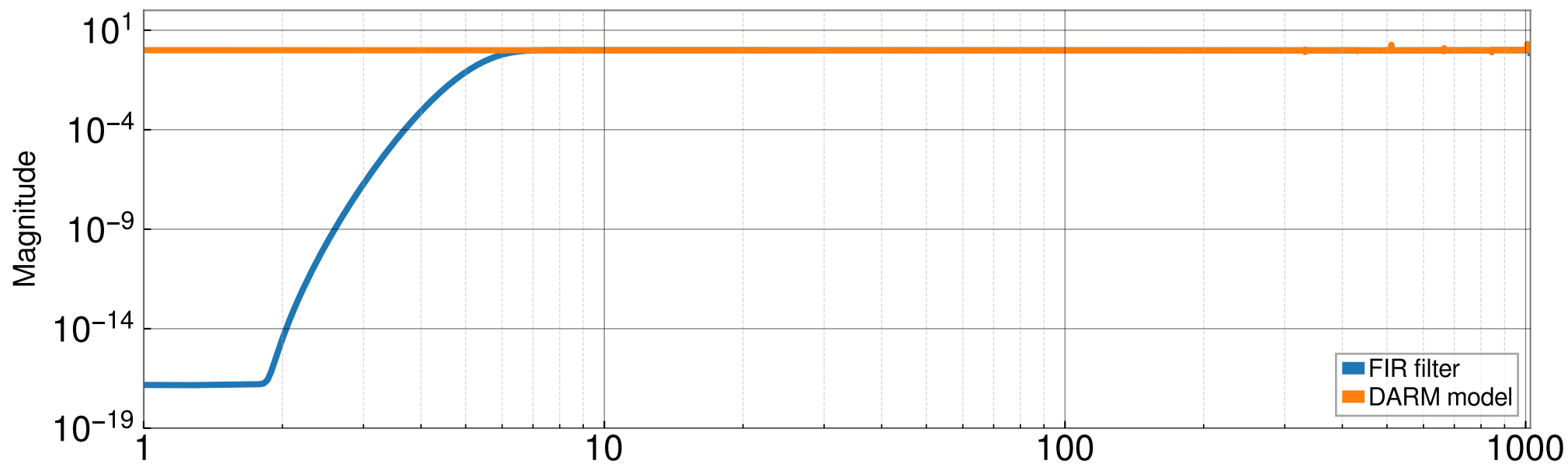
Nonsens corrections comparison (gstlal_compute_strain_C00_filters_H1)



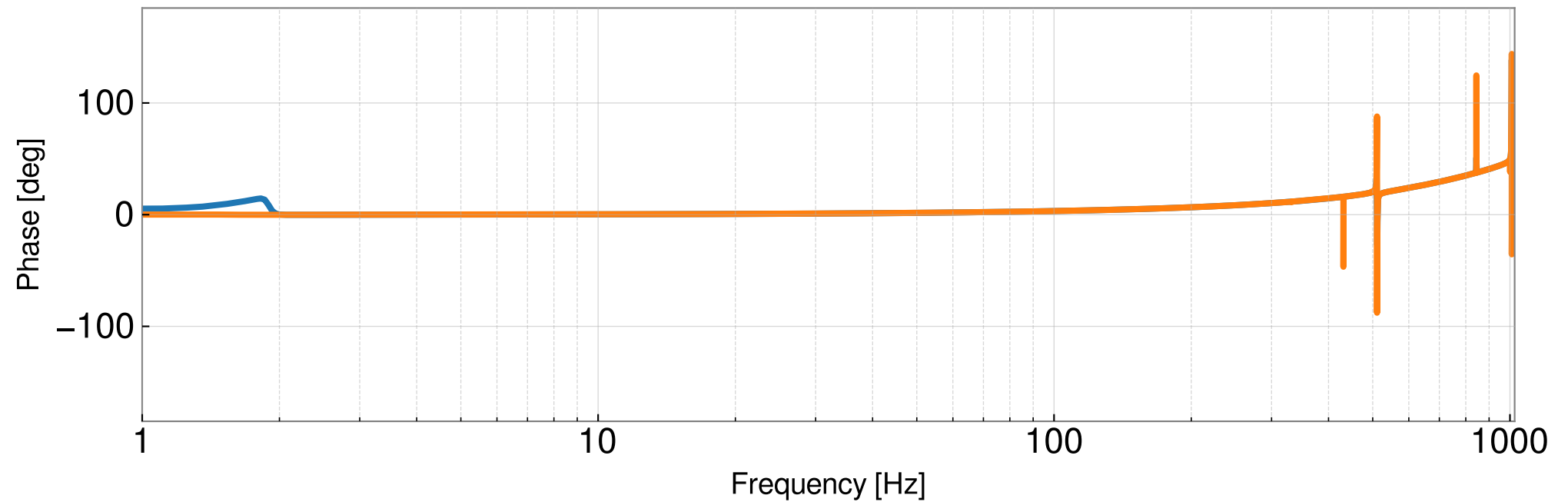
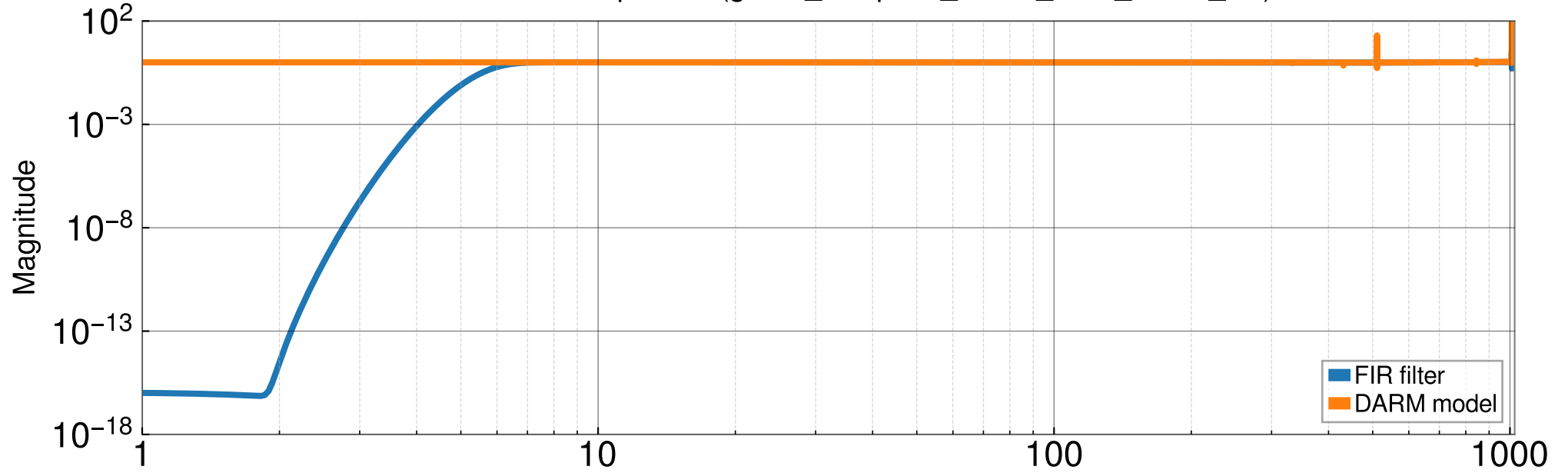
Residual corrections highpass comparison (gstlal_compute_strain_C00_filters_H1)



TST corrections comparison (gstlal_compute_strain_C00_filters_H1)



PUM corrections comparison (gstlal_compute_strain_C00_filters_H1)



UIM corrections comparison (gstlal_compute_strain_C00_filters_H1)

