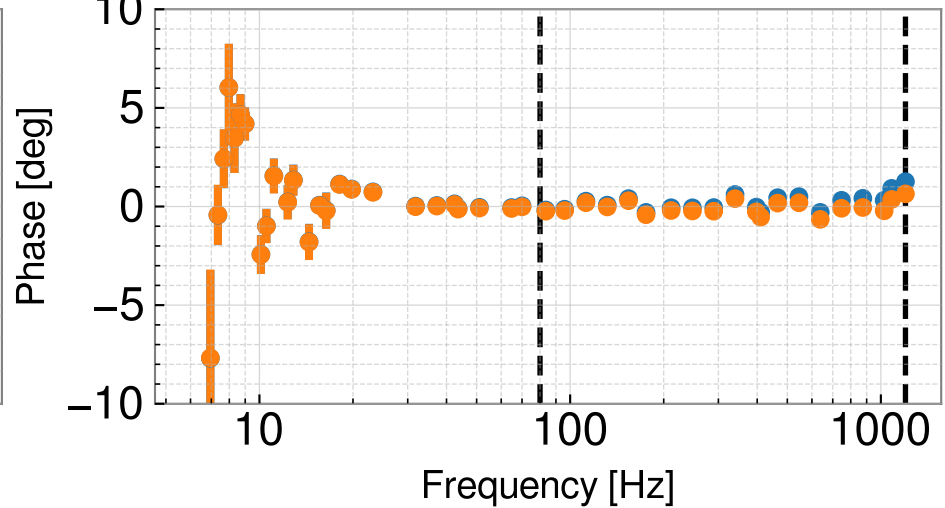
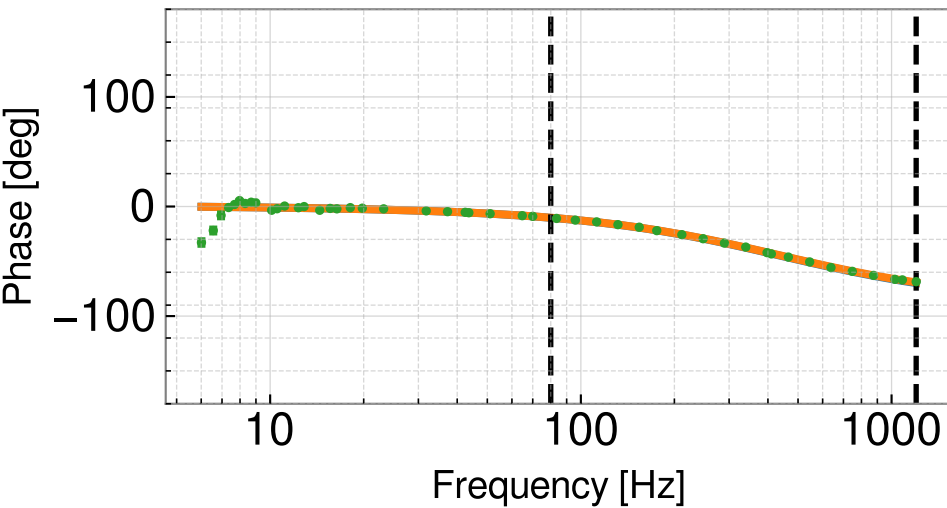
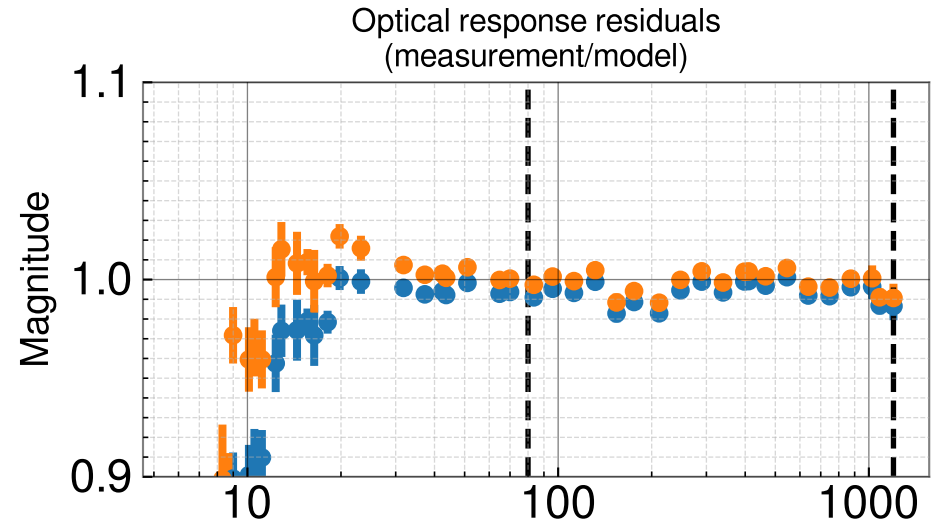
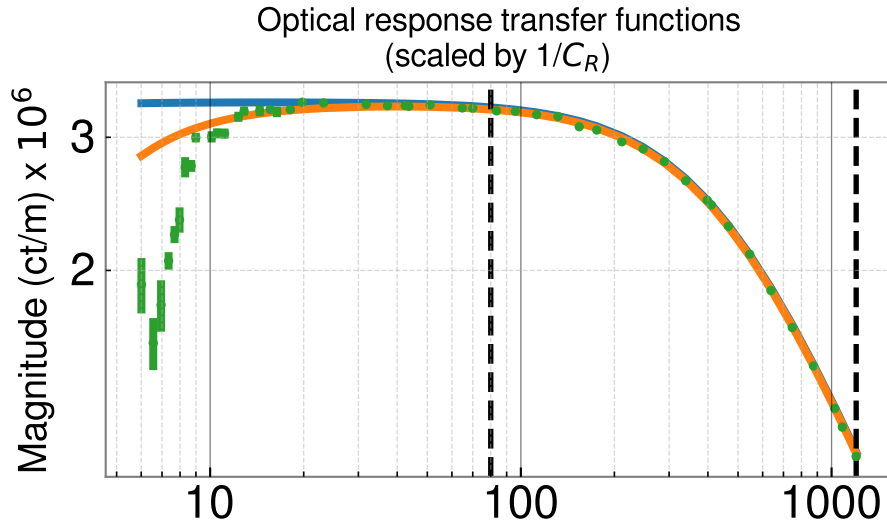
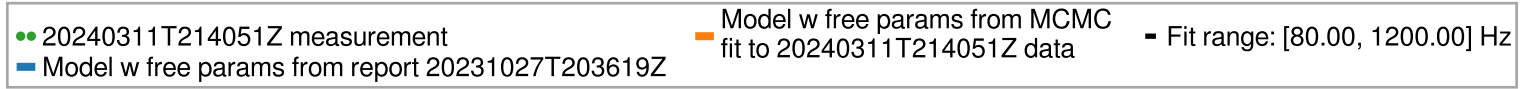


# H1 sensing model MCMC summary

All fixed parameters drawn from 20240311T214031Z/pydarm\_H1.ini



Parameter	(value +/-)   value	+	-
Optical gain, H_c (ct/m)	3.322e+06	6688 (0.20%)	4353 (0.13%)
Cavity_pole, f_cc (Hz)	440.9	1.114 (0.25%)	1.335 (0.30%)
Detuned SRC spring frequency, f_s (Hz)	2.486	3.335 (134.15%)	2.28 (91.70%)
Detuned SRC spring quality factor, Q_s	39.47	35.52 (89.99%)	30.22 (76.57%)
Residual time delay, tau_c (s)	-1.356e-06	3.956e-07 (-29.18%)	4.157e-07 (-30.66%)

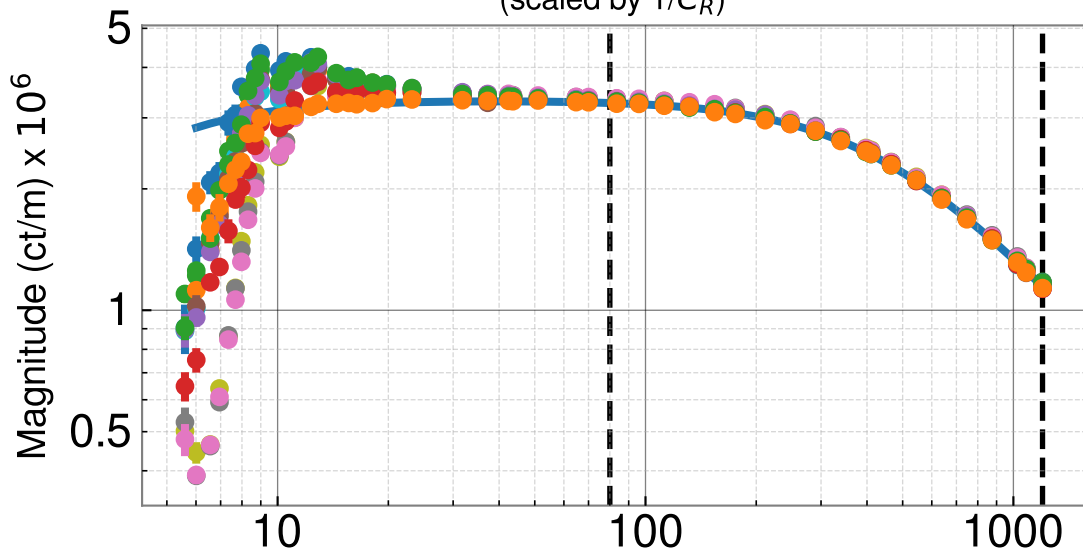


# H1 sensing model history

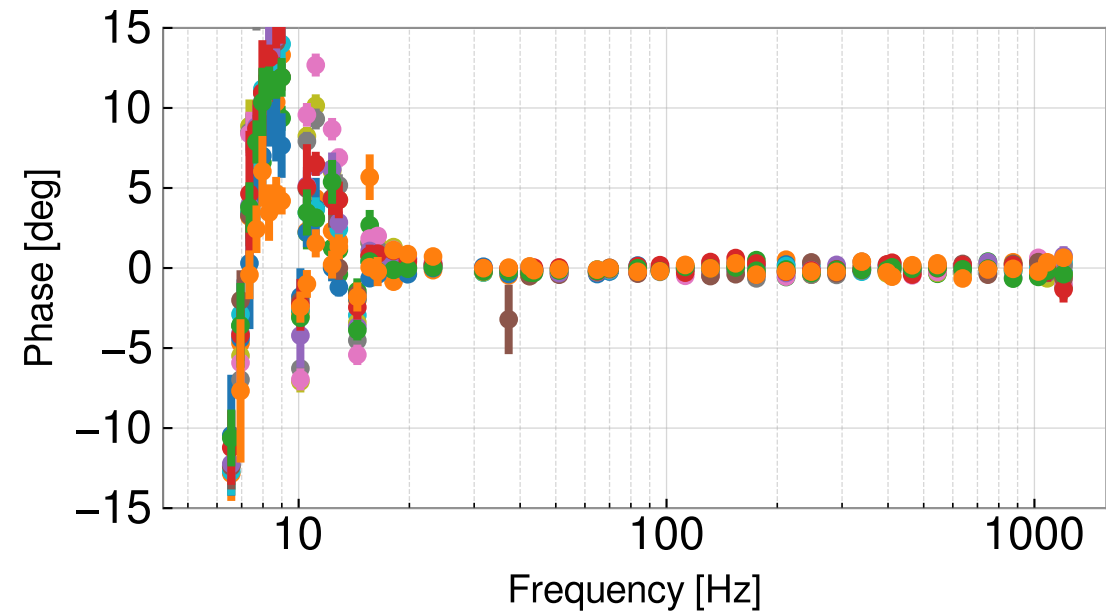
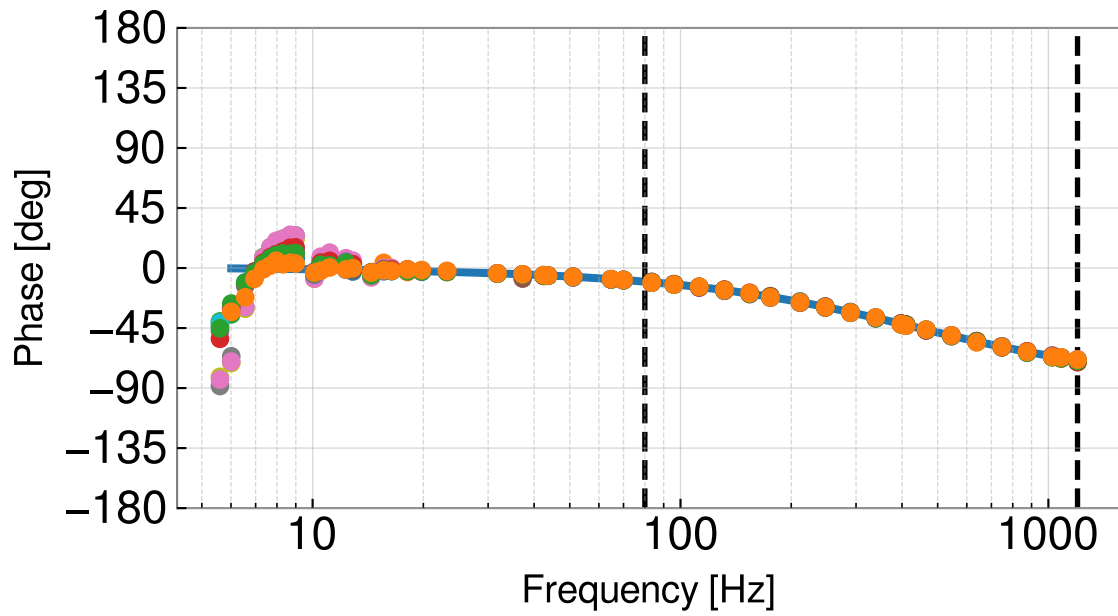
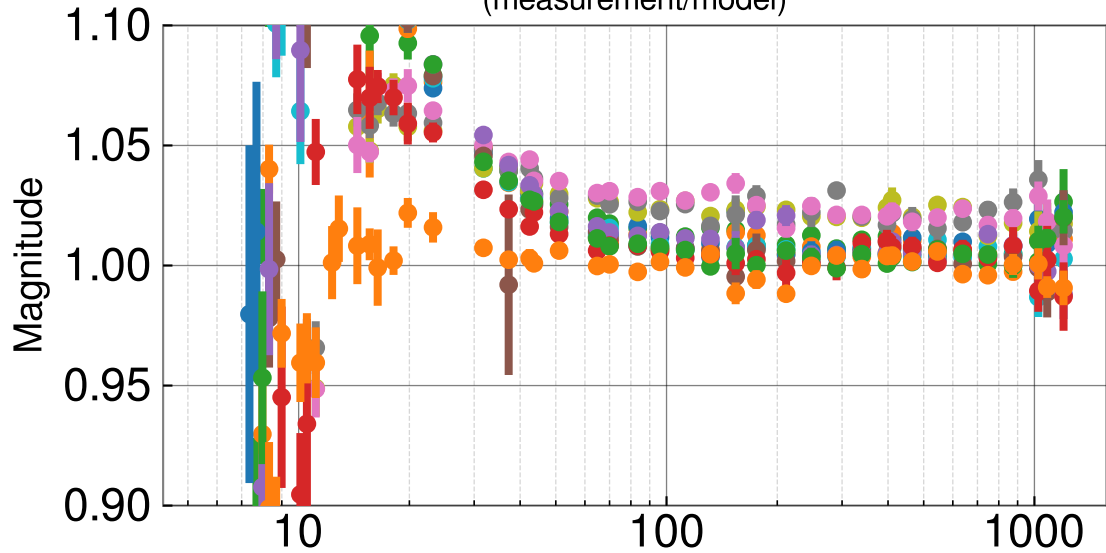
All fixed parameters drawn from 20231027T203619Z/pydarm\_H1.ini

- 20231027T203619Z model
- 20240311T214051Z measurement
- 20231027T203619Z measurement
- 20231018T190729Z measurement
- 20231004T190945Z measurement
- 20230928T193609Z measurement
- 20230913T183650Z measurement
- 20230906T220850Z measurement
- 20230830T213653Z measurement
- 20230823T213958Z measurement
- 20230817T214248Z measurement
- 20230802T000812Z measurement
- 20230727T162112Z measurement
- Fit range: [80.00, 1200.00] Hz

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

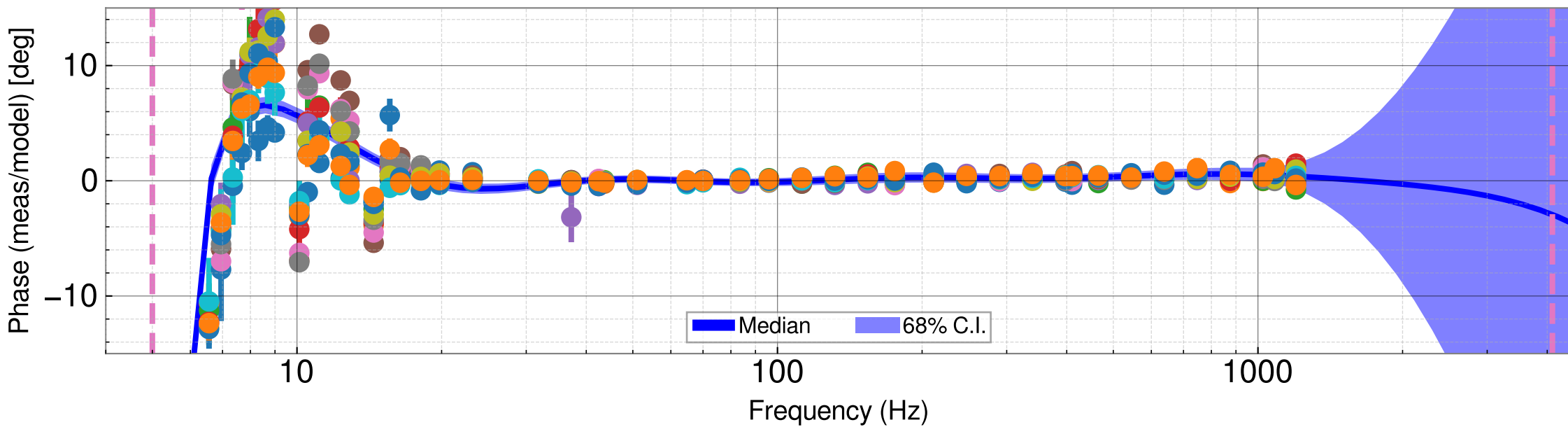
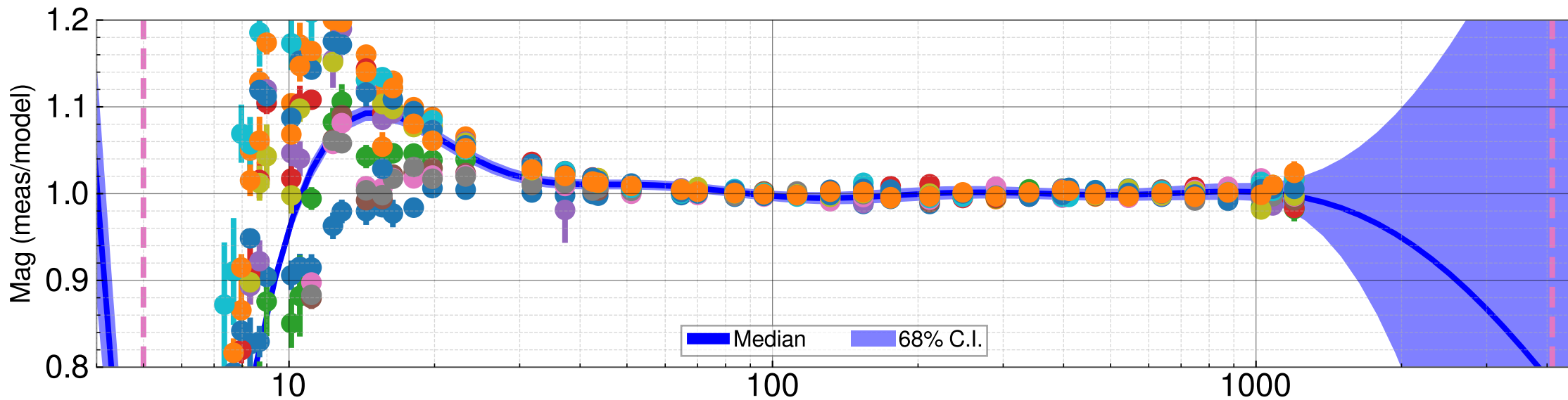


Optical response residuals  
(measurement/model)



# Sensing GPR

- meas. 20240311T214051Z of report 20240311T214031Z
- meas. 20231027T203639Z of report 20231027T203619Z
- meas. 20231018T190749Z of report 20231018T190729Z
- meas. 20231004T191004Z of report 20231004T190945Z
- meas. 20230928T193629Z of report 20230928T193609Z
- meas. 20230913T183710Z of report 20230913T183650Z
- meas. 20230830T213712Z of report 20230830T213653Z
- meas. 20230823T214018Z of report 20230823T213958Z
- meas. 20230817T214308Z of report 20230817T214248Z
- meas. 20230906T220910Z of report 20230906T220850Z
- meas. 20230802T000832Z of report 20230802T000812Z
- meas. 20230727T162132Z of report 20230727T162112Z

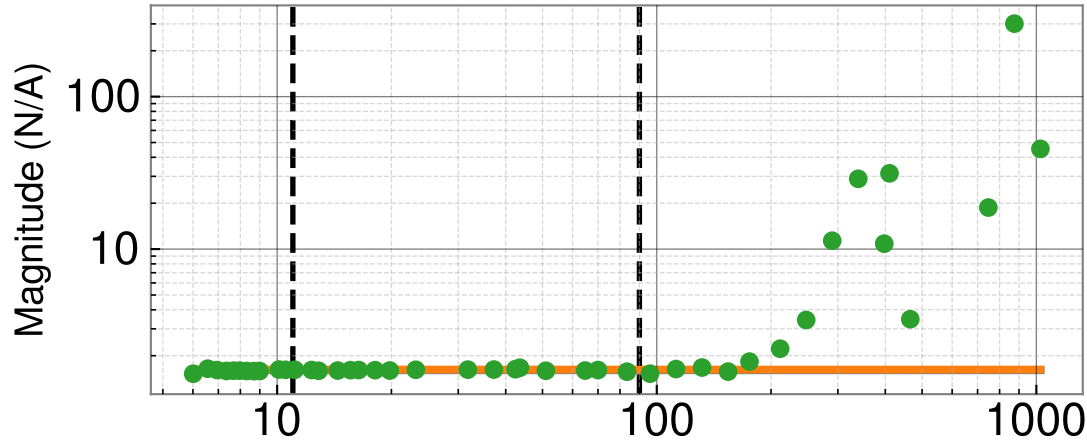


# H1SUSEX L1 actuation model MCMC summary

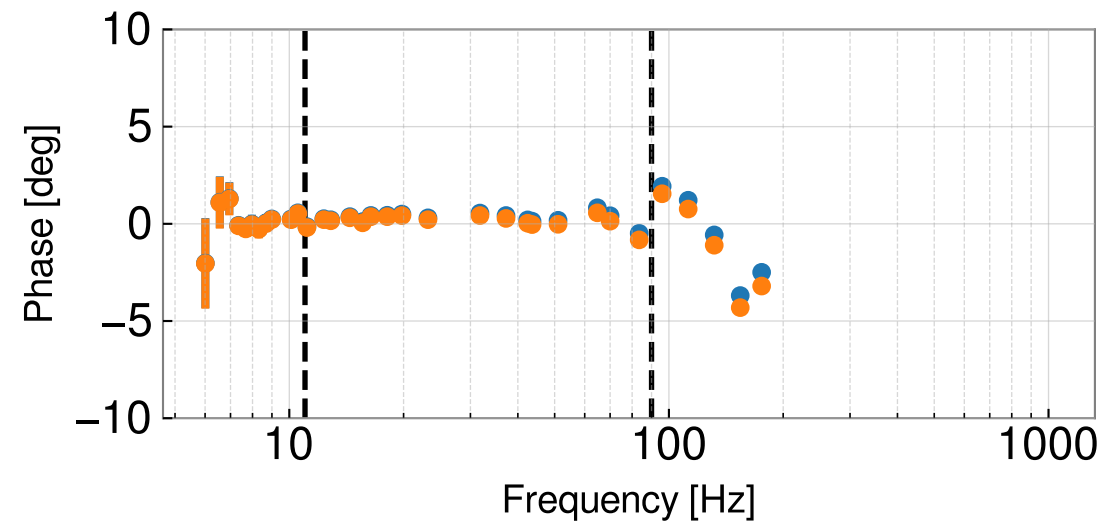
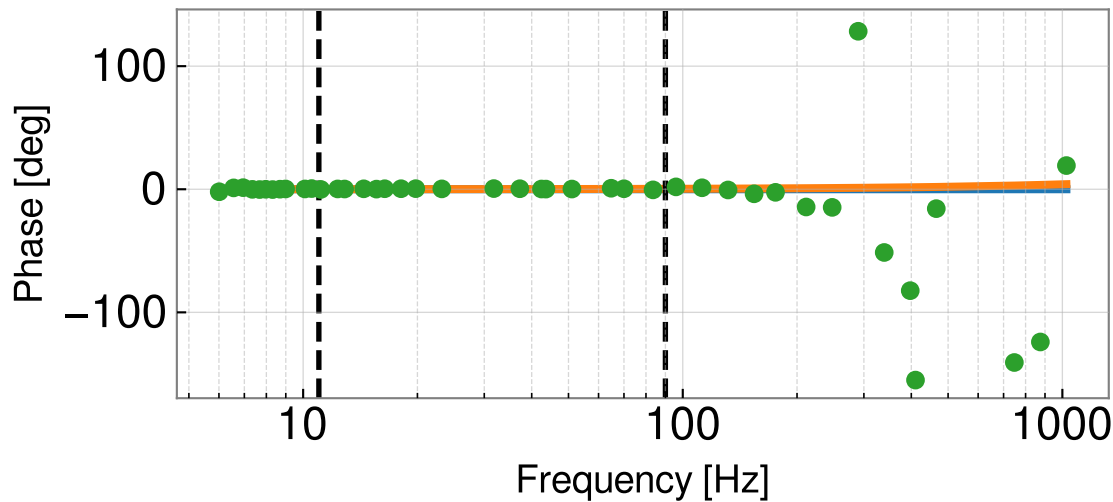
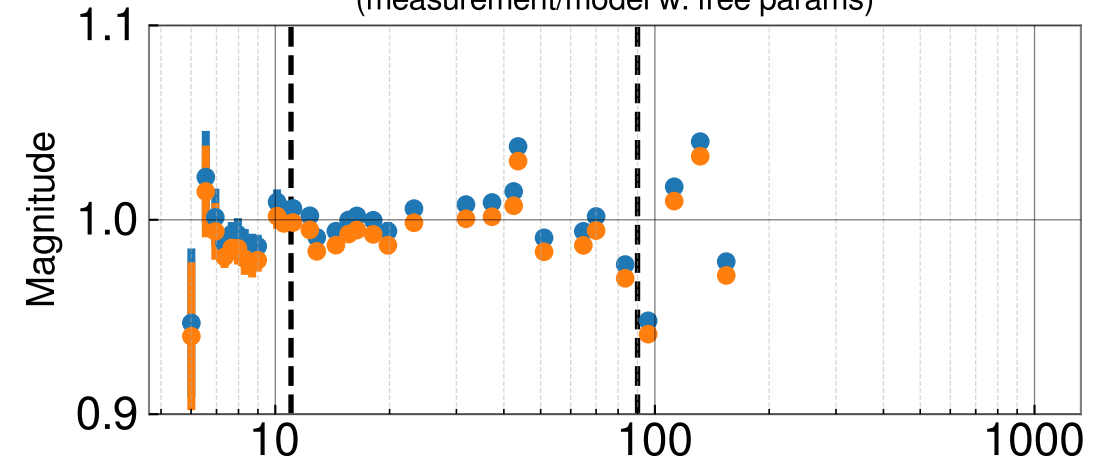
All fixed parameters drawn from 20240311T214031Z/pydarm\_H1.ini



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

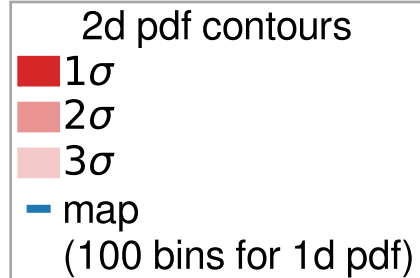


Actuation strength residuals  
(measurement/model w. free params)

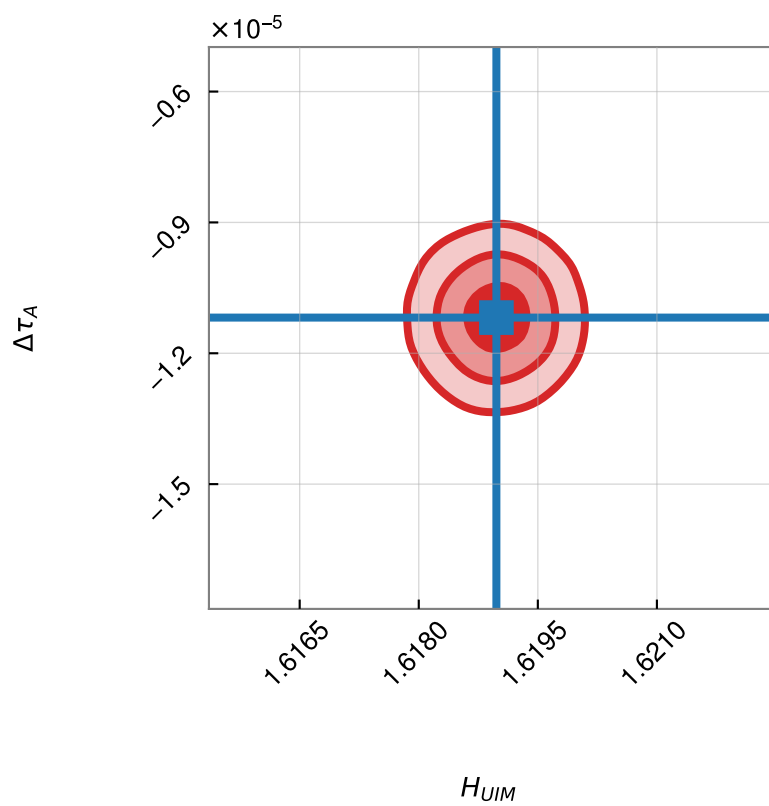
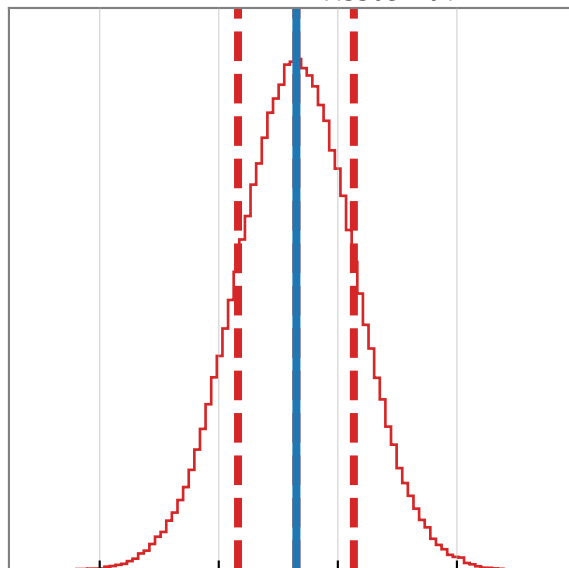


Parameter	(value +/-)   value	+	-
Actuation Gain, Hau (N/A)	1.619	0.0007241 (0.04%)	0.000735 (0.05%)
Residual time delay, tau_A (s)	-1.118e-05	1.401e-06 (-12.53%)	1.413e-06 (-12.63%)

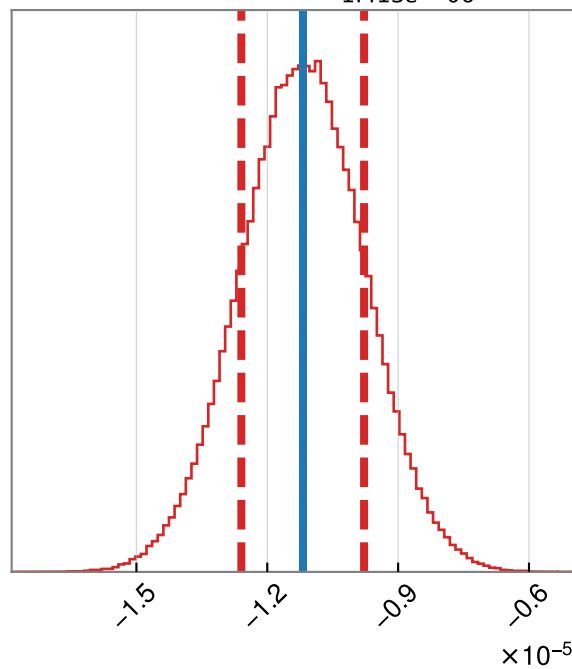
# 20240311T214050Z EX L1 actuation MCMC corner plot



$$H_{UIM} = 1.619e + 00^{+7.241e-04}_{-7.350e-04}$$

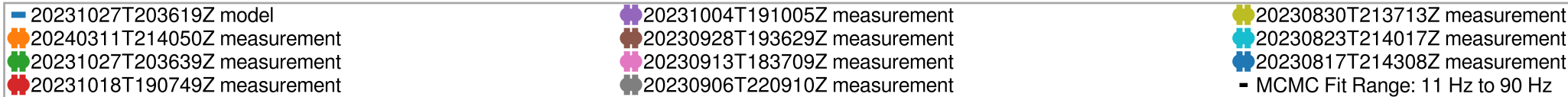


$$\Delta\tau_A = -1.118e - 05^{+1.401e-06}_{-1.413e-06}$$

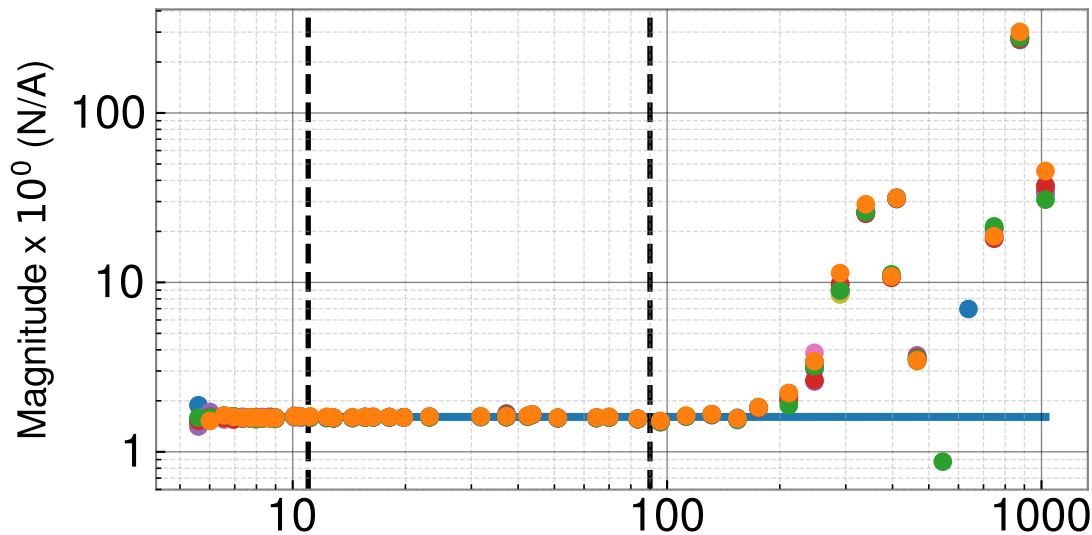


# H1 SUSEX L1 actuation model history

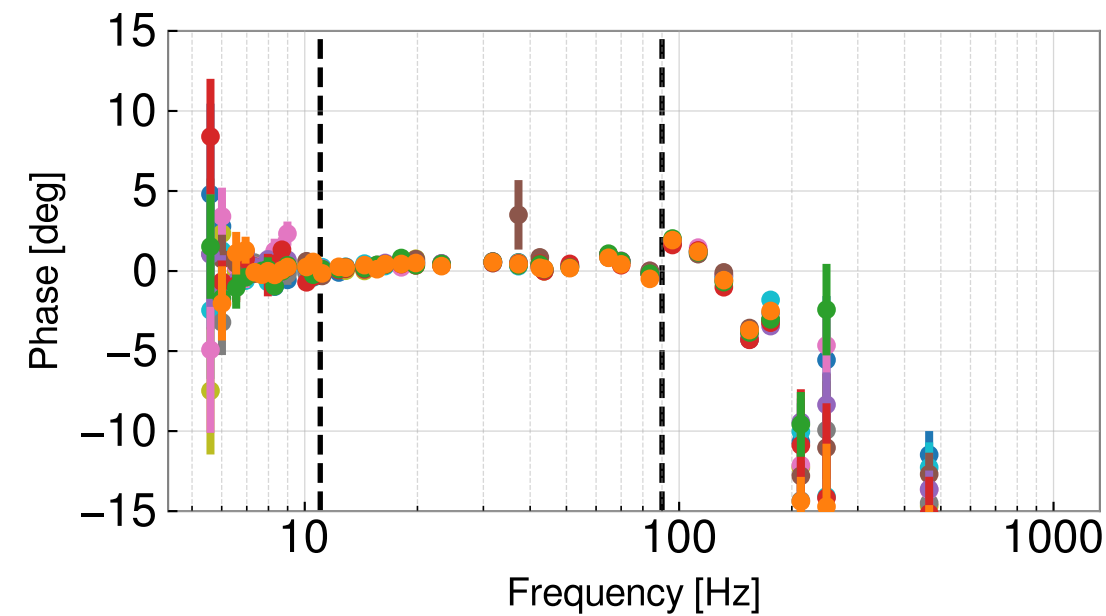
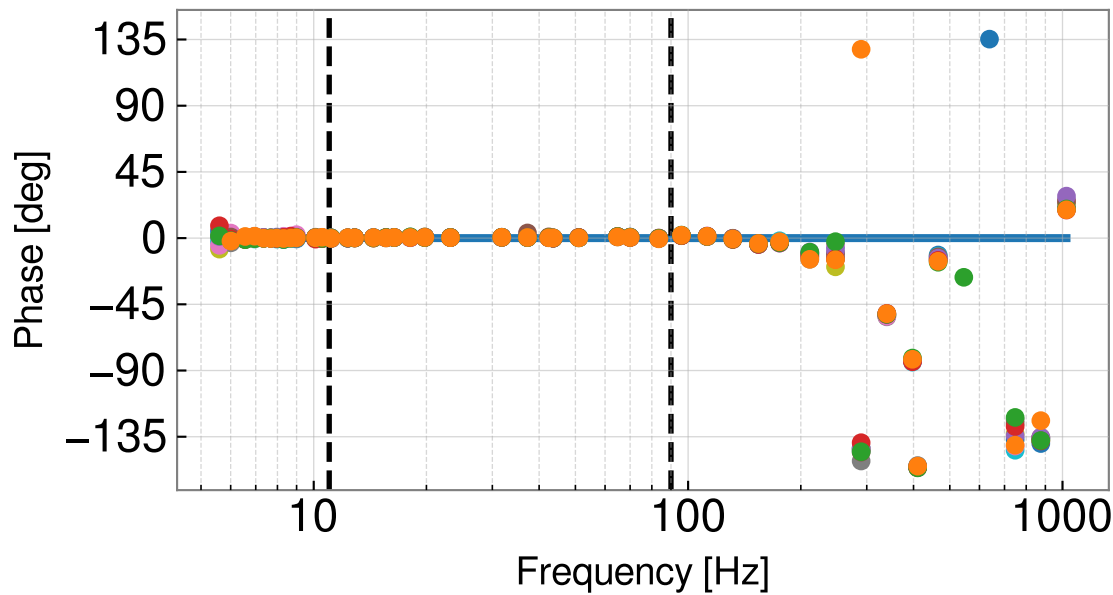
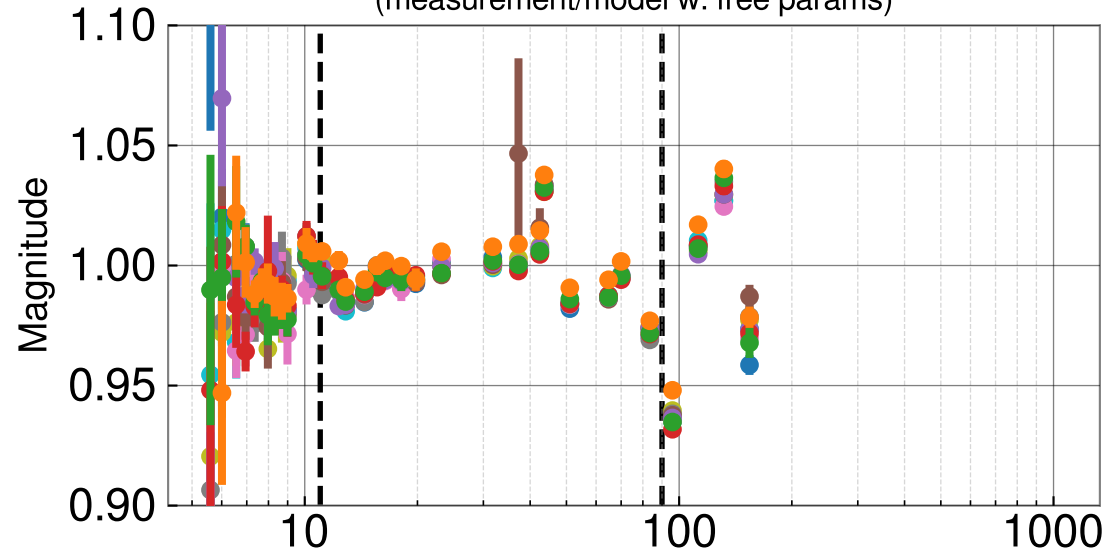
All fixed parameters drawn from 20240311T214031Z/pydarm\_H1.ini



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



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

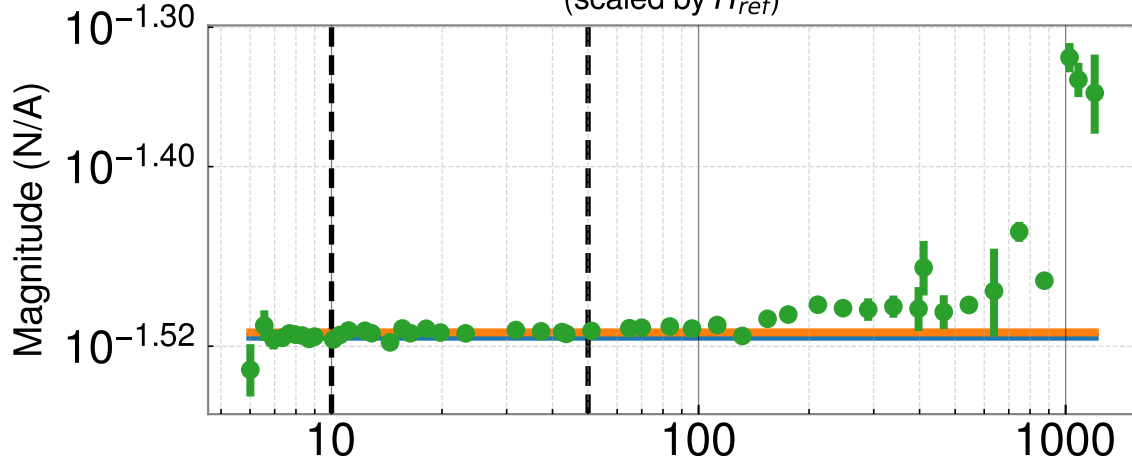


# H1SUSEX L2 actuation model MCMC summary

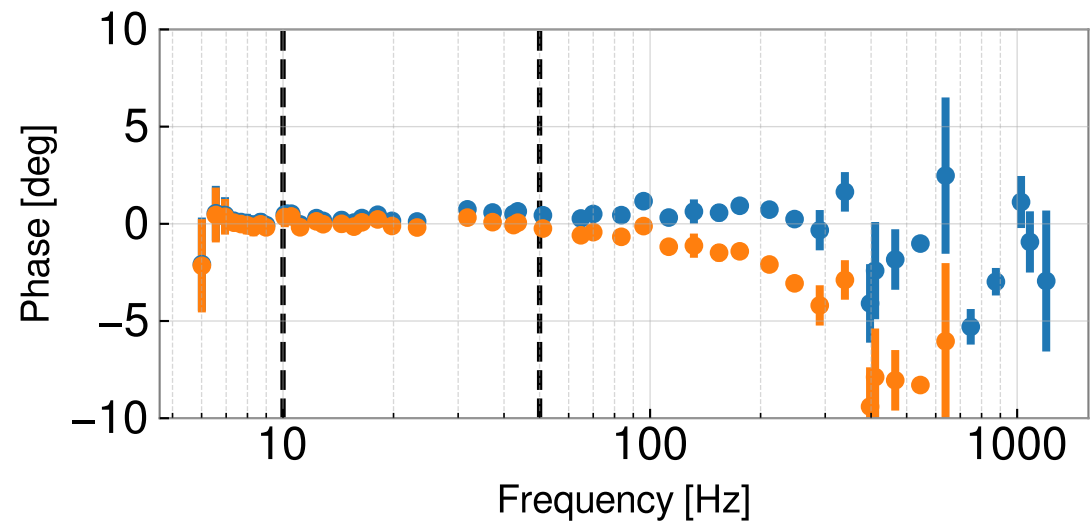
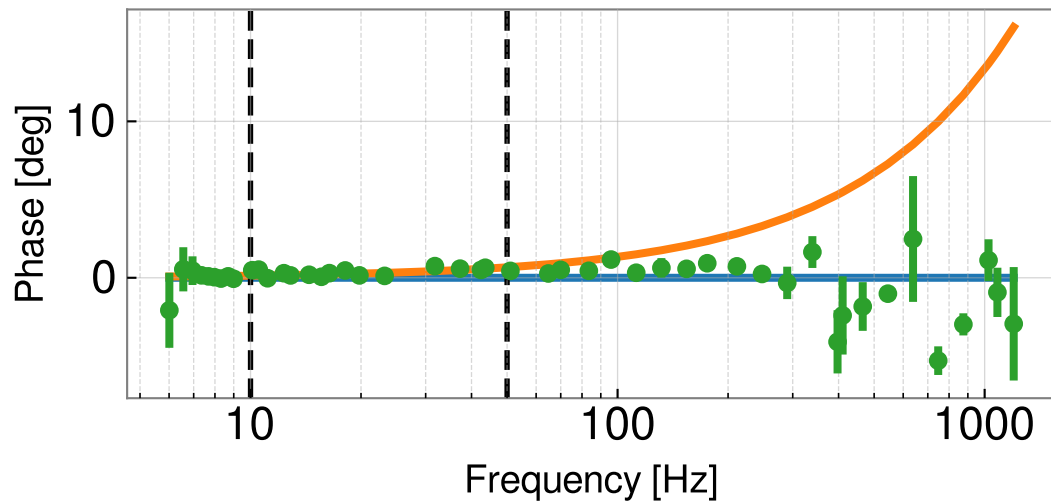
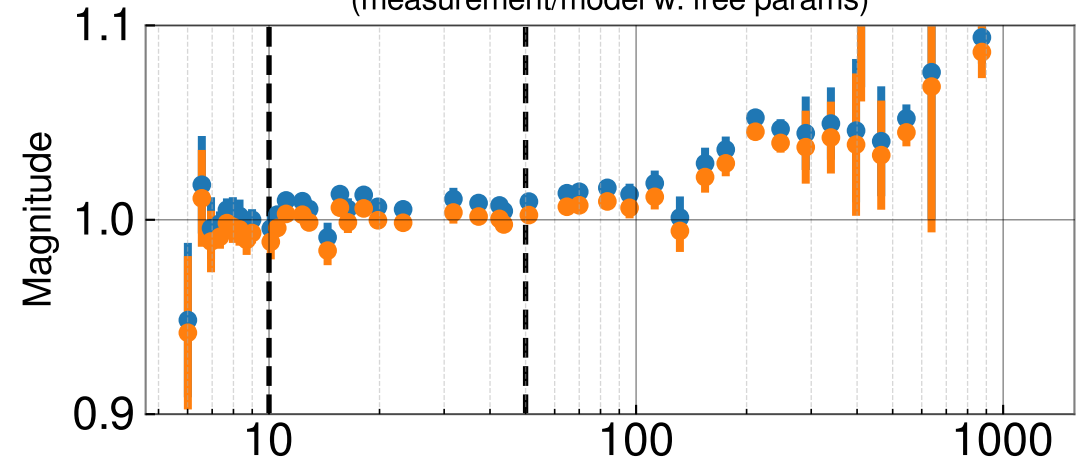
All fixed parameters drawn from 20240311T214031Z/pydarm\_H1.ini



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



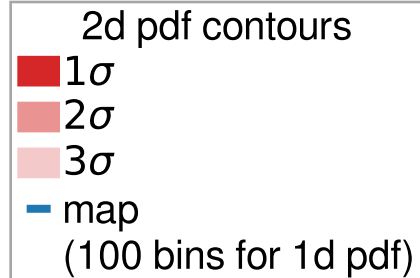
Actuation strength residuals  
(measurement/model w. free params)



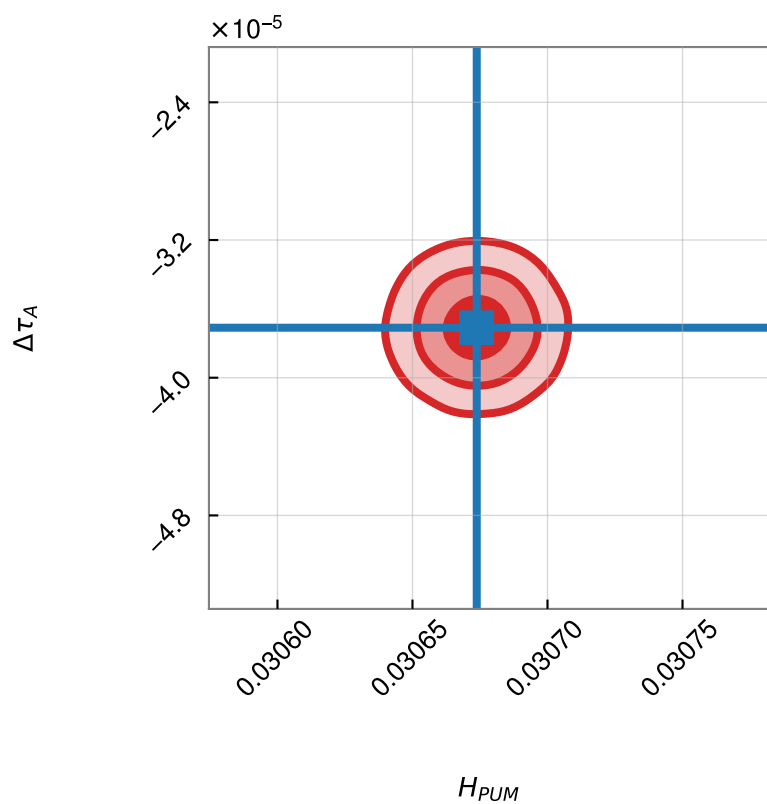
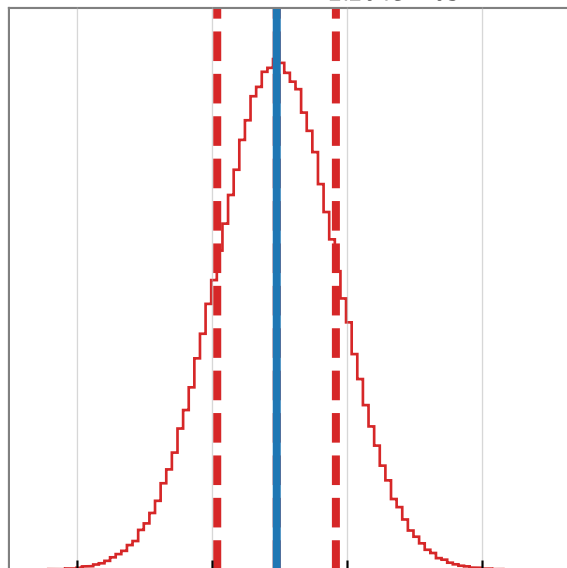
Parameter	(value +/-)   value	+	-
Actuation Gain, Hap (N/A)	0.03067	2.191e-05 (0.07%)	2.204e-05 (0.07%)
Residual time delay, tau_A (s)	-3.709e-05	3.302e-06 (-8.90%)	3.273e-06 (-8.82%)



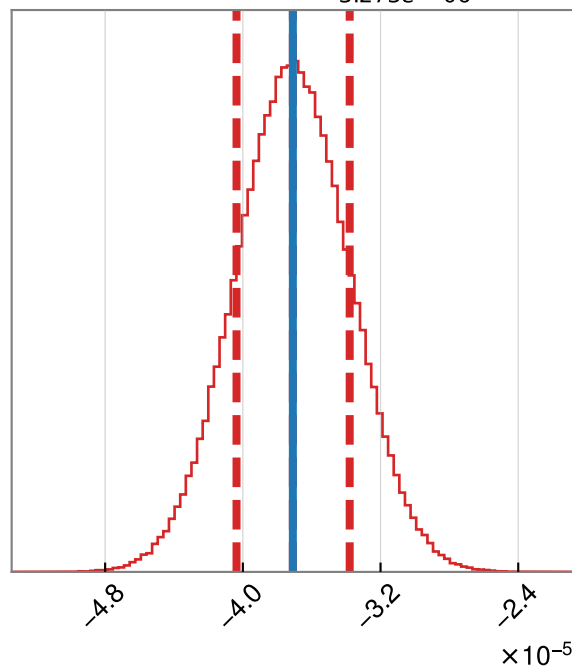
# 20240311T214050Z EX L2 actuation MCMC corner plot



$$H_{PUM} = 3.067e - 02^{+2.191e - 05}_{-2.204e - 05}$$

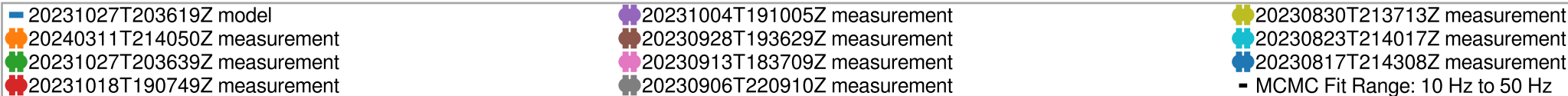


$$\Delta\tau_A = -3.709e - 05^{+3.302e - 06}_{-3.273e - 06}$$

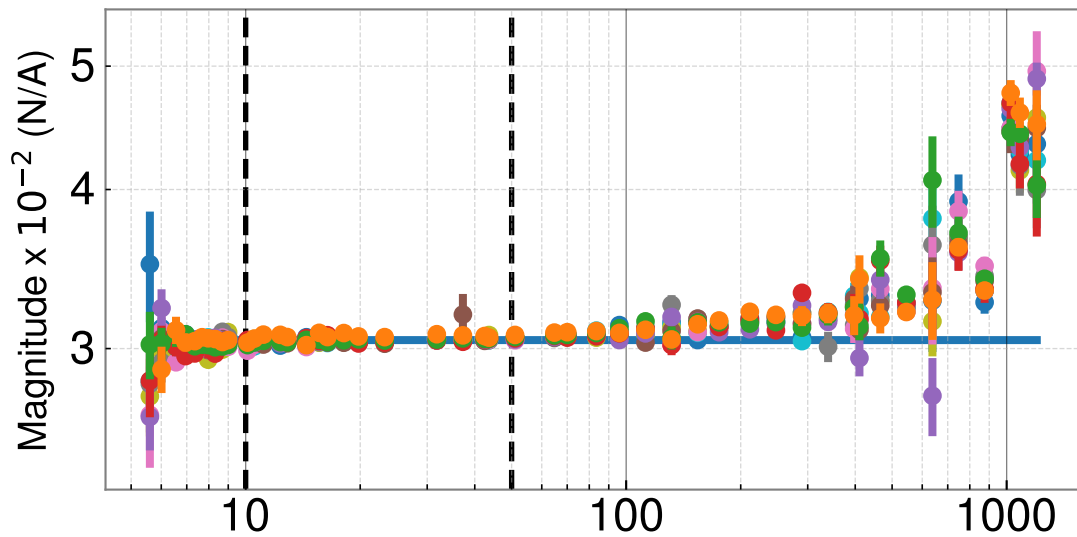


# H1 SUSEX L2 actuation model history

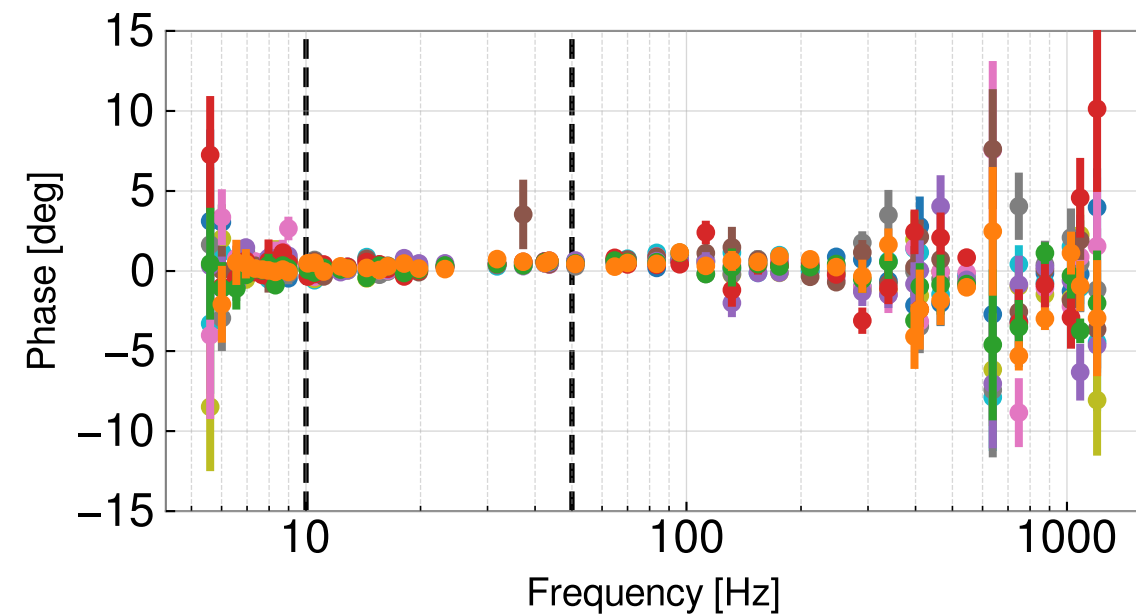
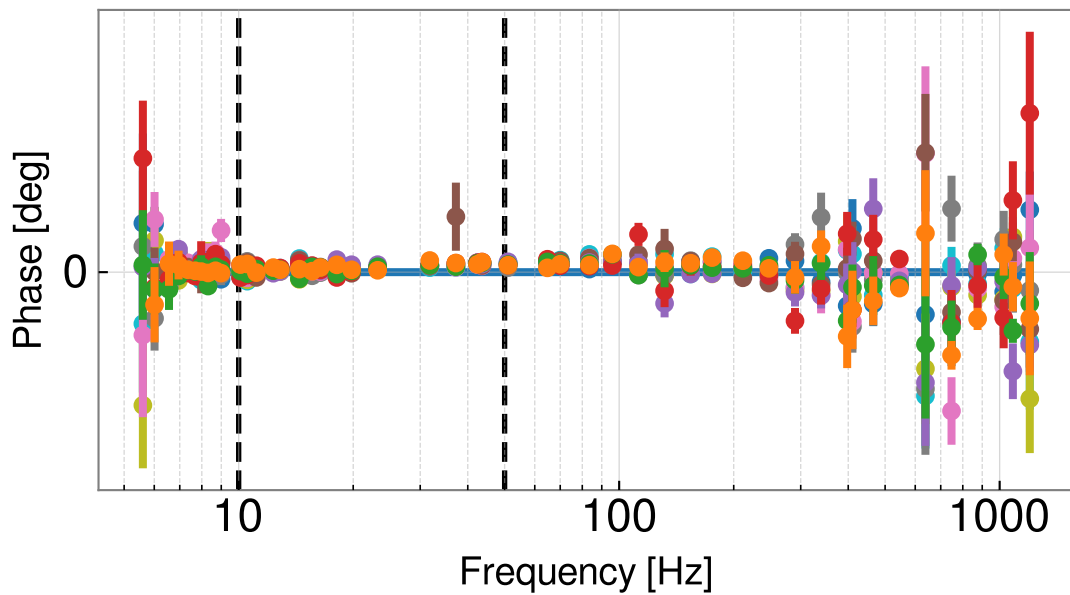
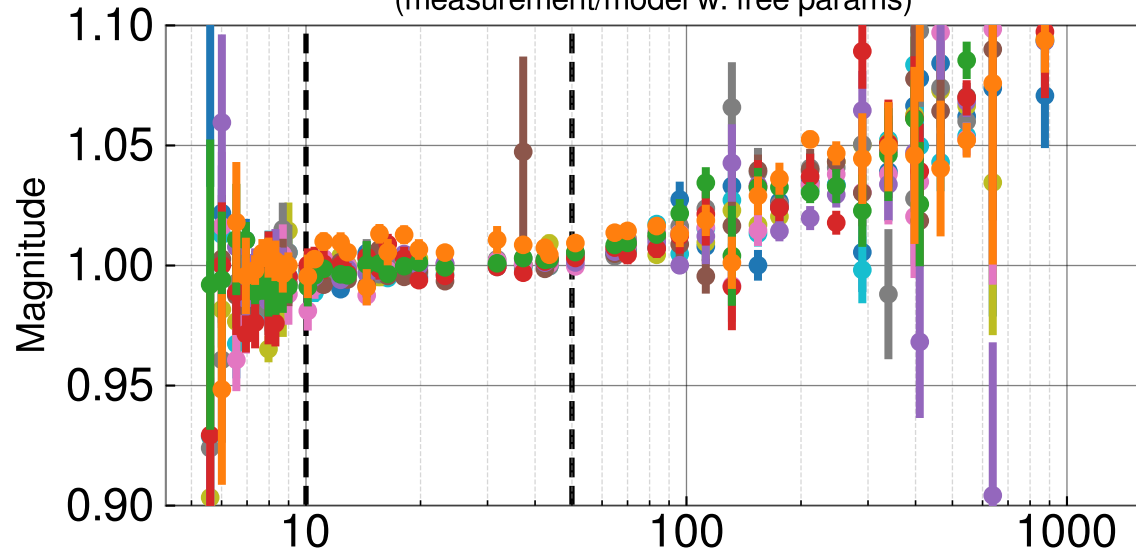
All fixed parameters drawn from 20240311T214031Z/pydarm\_H1.ini



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

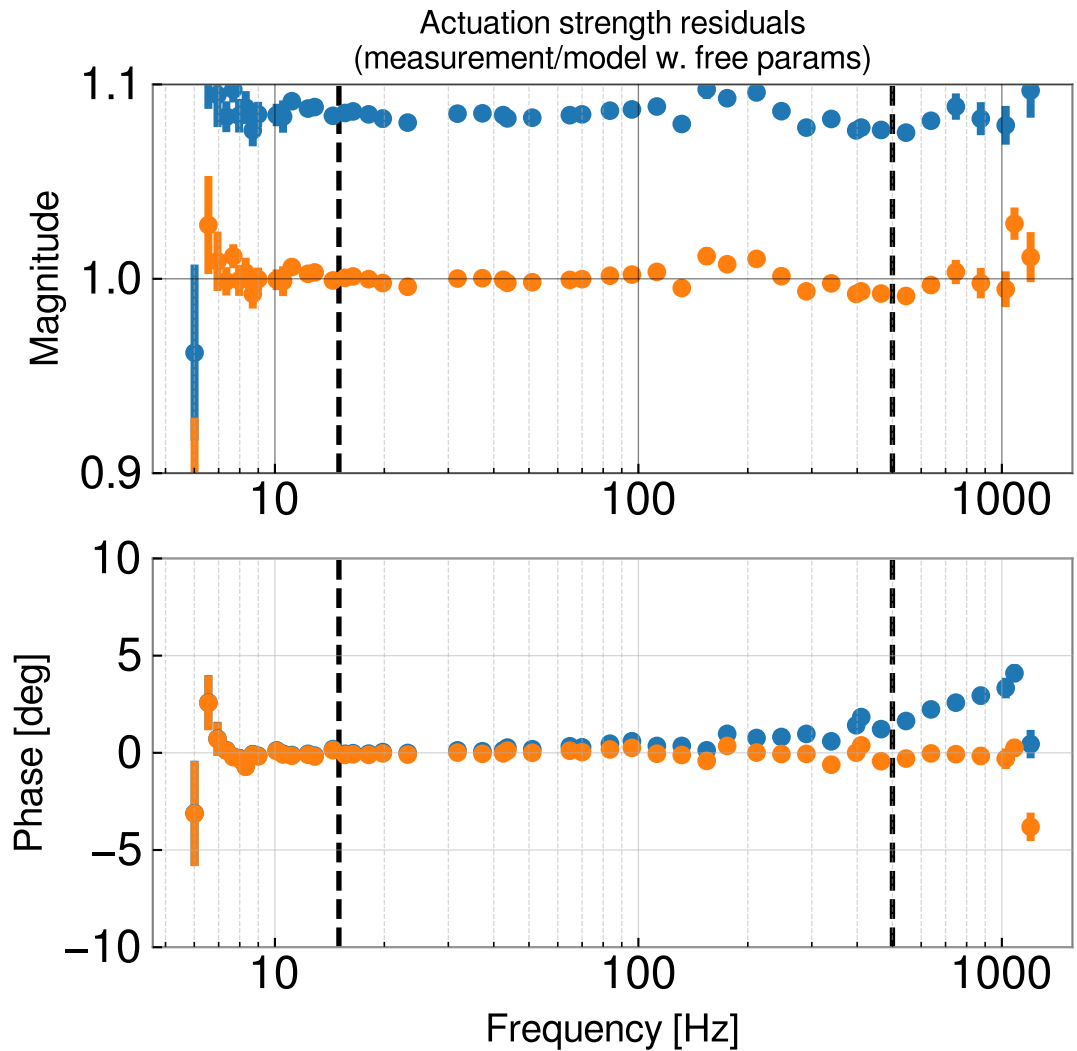
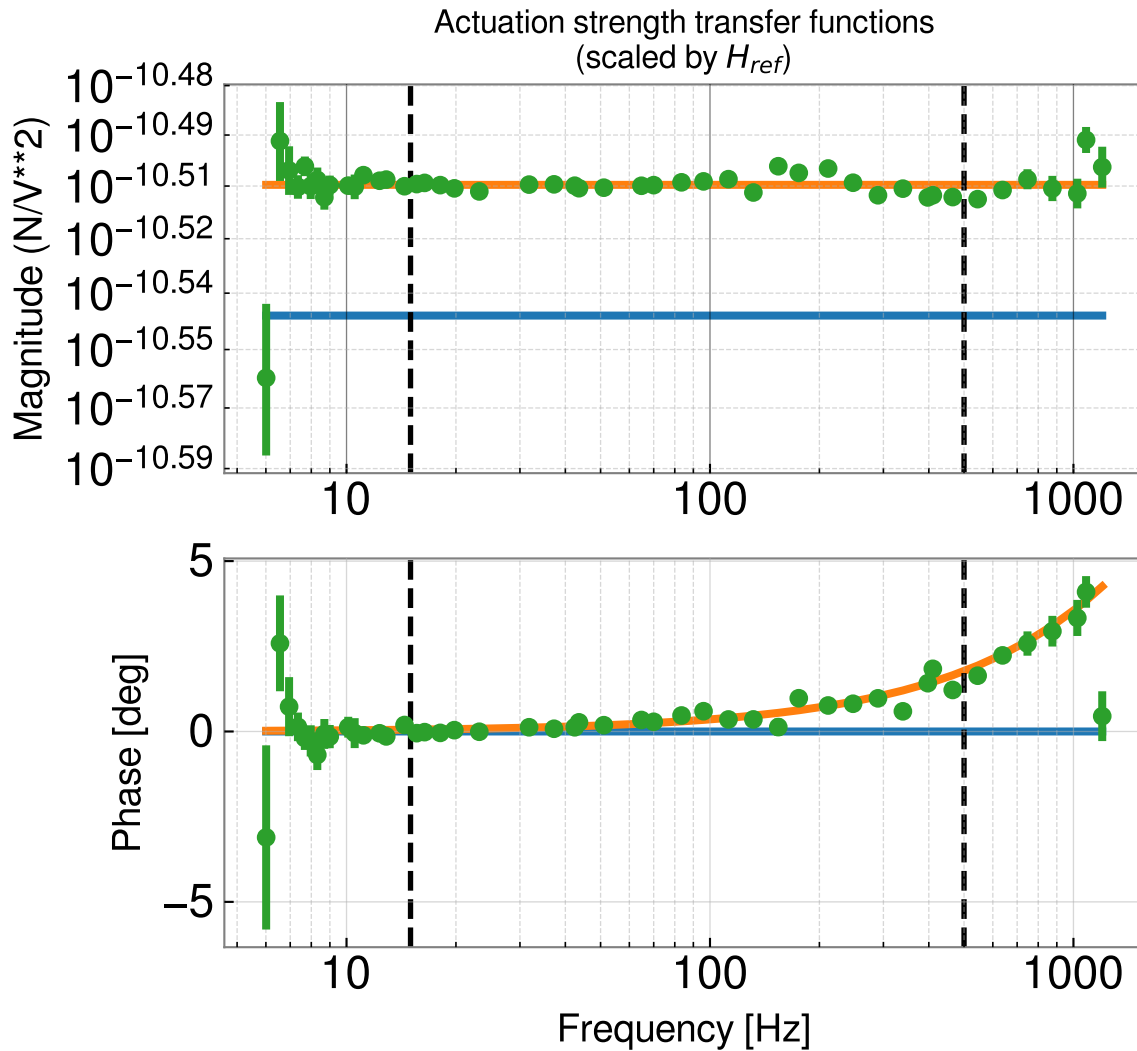


Actuation strength residuals  
(measurement/model w. free params)



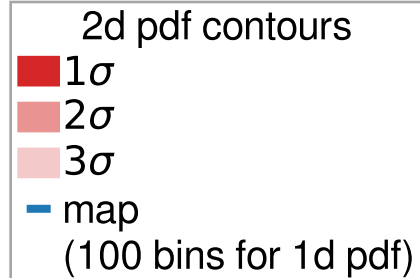
# H1SUSEX L3 actuation model MCMC summary

All fixed parameters drawn from 20240311T214031Z/pydarm\_H1.ini

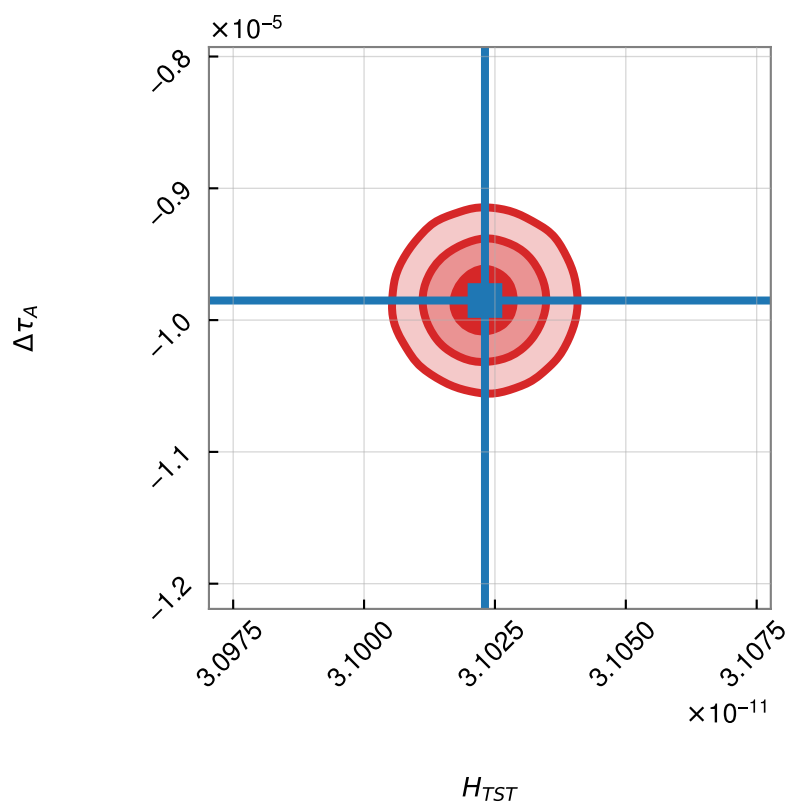
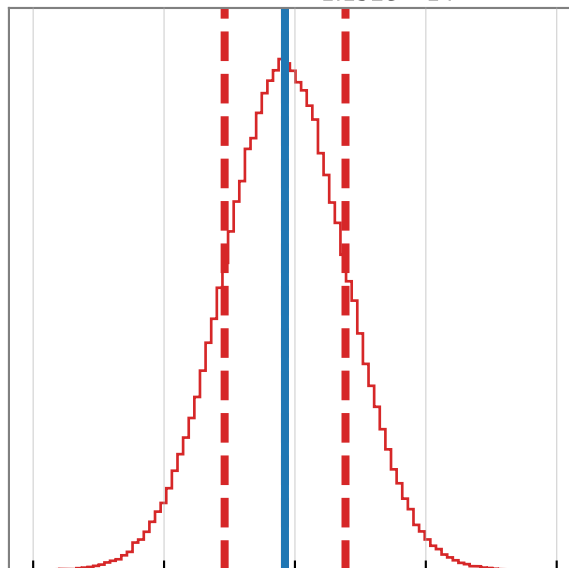


Parameter	(value +/-)   value	+	-
Actuation Gain, Hat ( $N/V^{**2}$ )	3.102e-11	1.156e-14 (0.04%)	1.152e-14 (0.04%)
Residual time delay, tau_A (s)	-9.851e-06	4.578e-07 (-4.65%)	4.571e-07 (-4.64%)

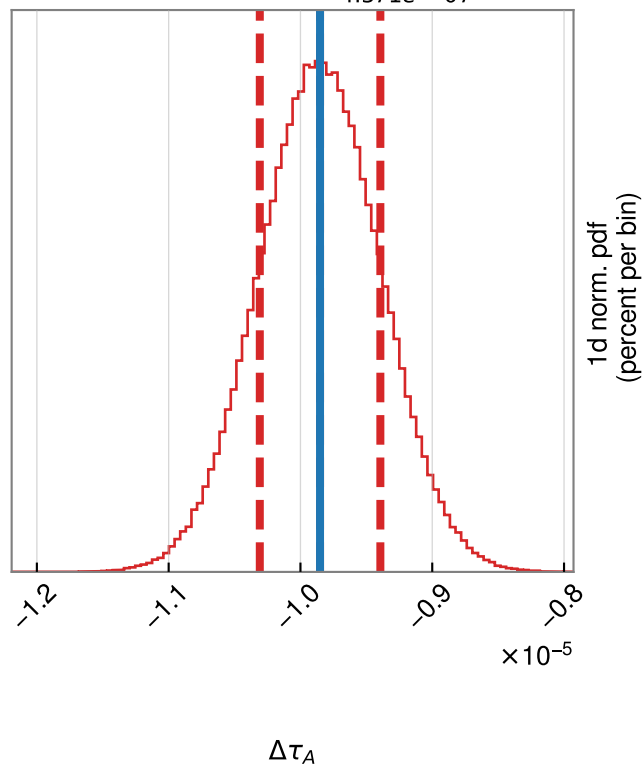
# 20240311T214051Z EX L3 actuation MCMC corner plot



$$H_{TST} = 3.102e - 11^{+1.156e - 14}_{-1.152e - 14}$$

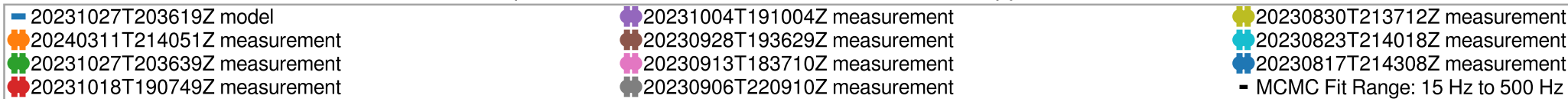


$$\Delta\tau_A = -9.851e - 06^{+4.578e - 07}_{-4.571e - 07}$$

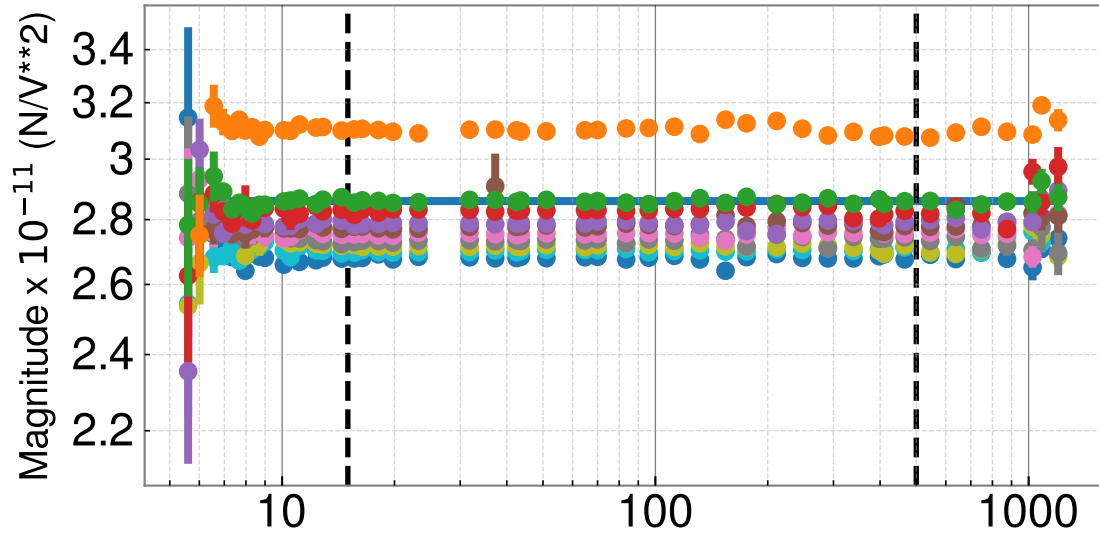


# H1 SUSEX L3 actuation model history

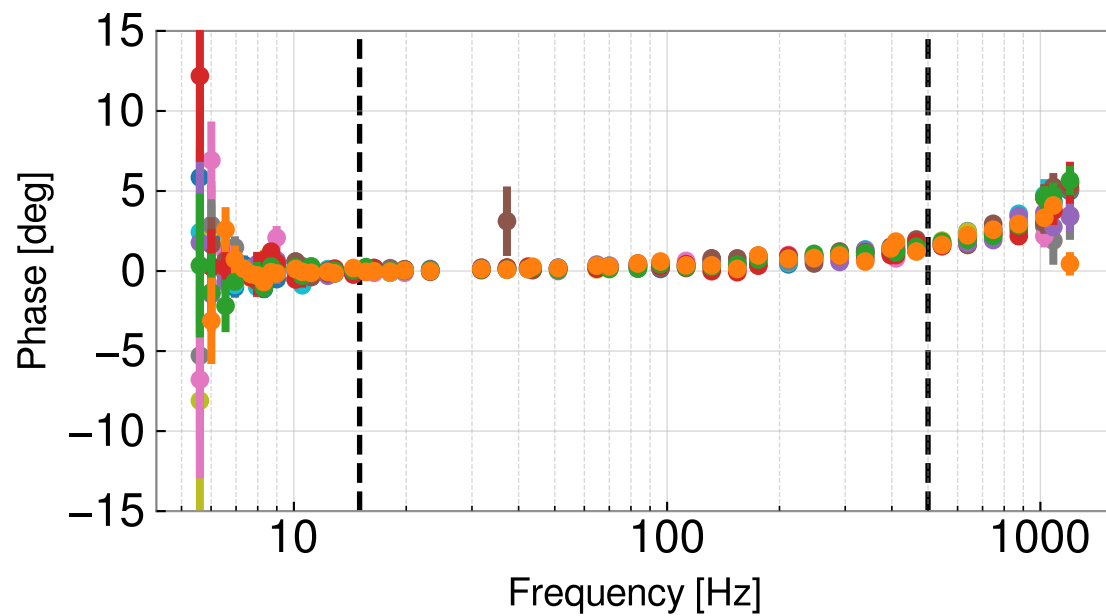
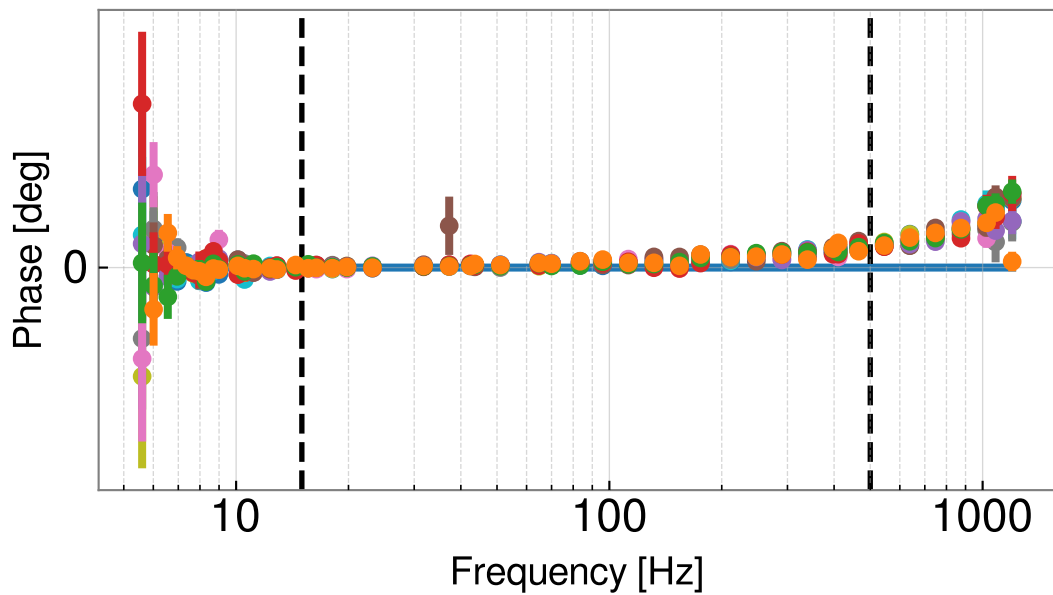
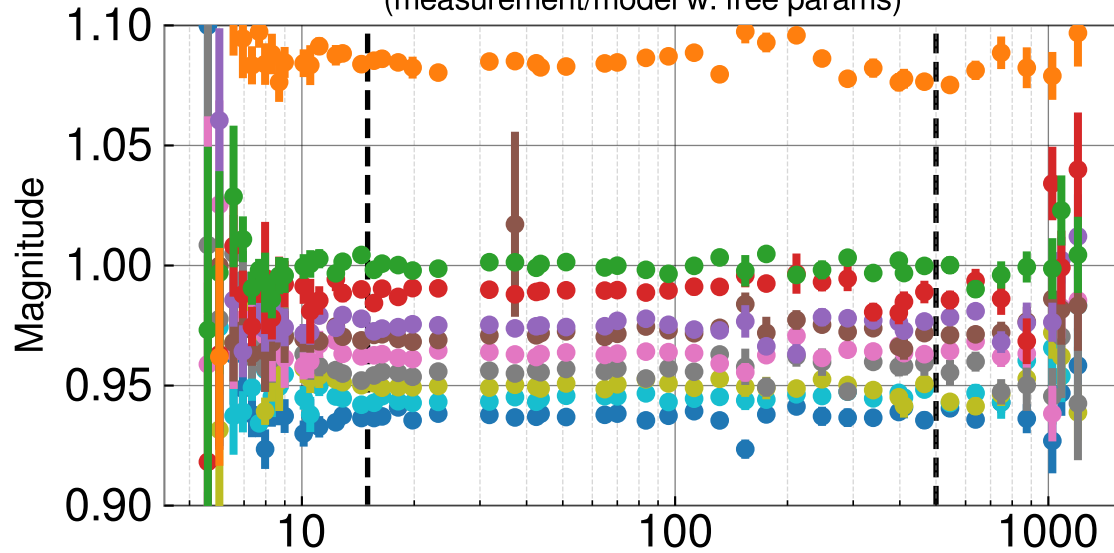
All fixed parameters drawn from 20240311T214031Z/pydarm\_H1.ini



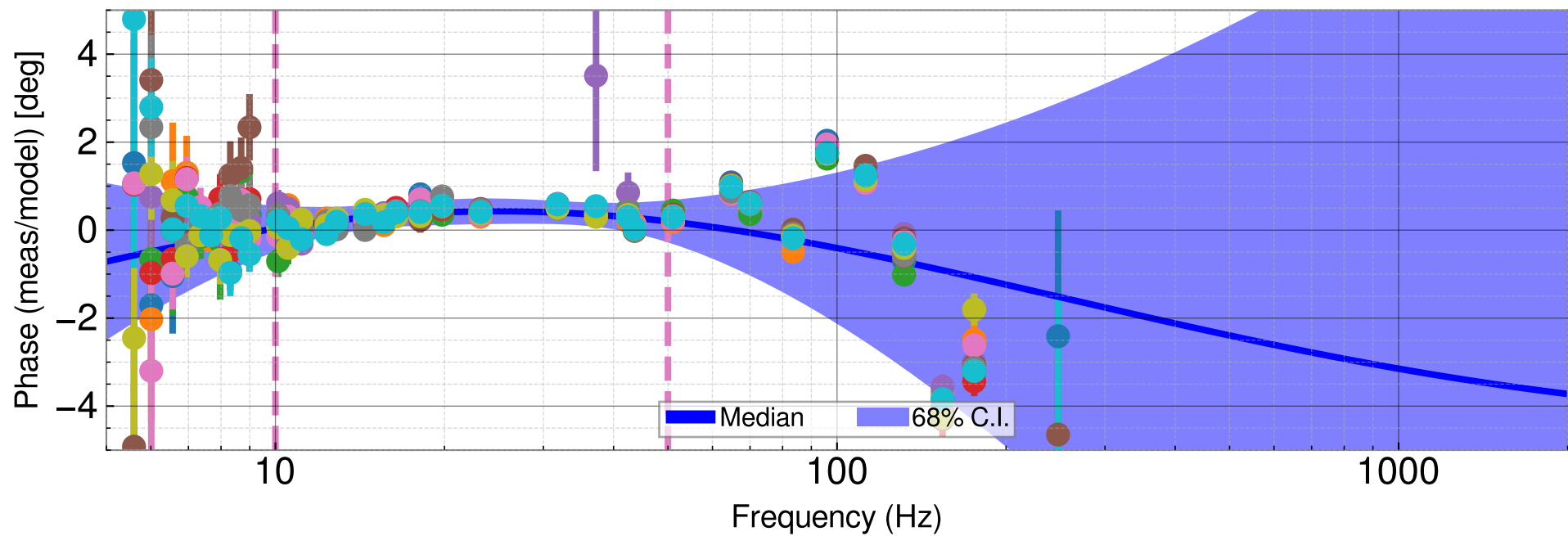
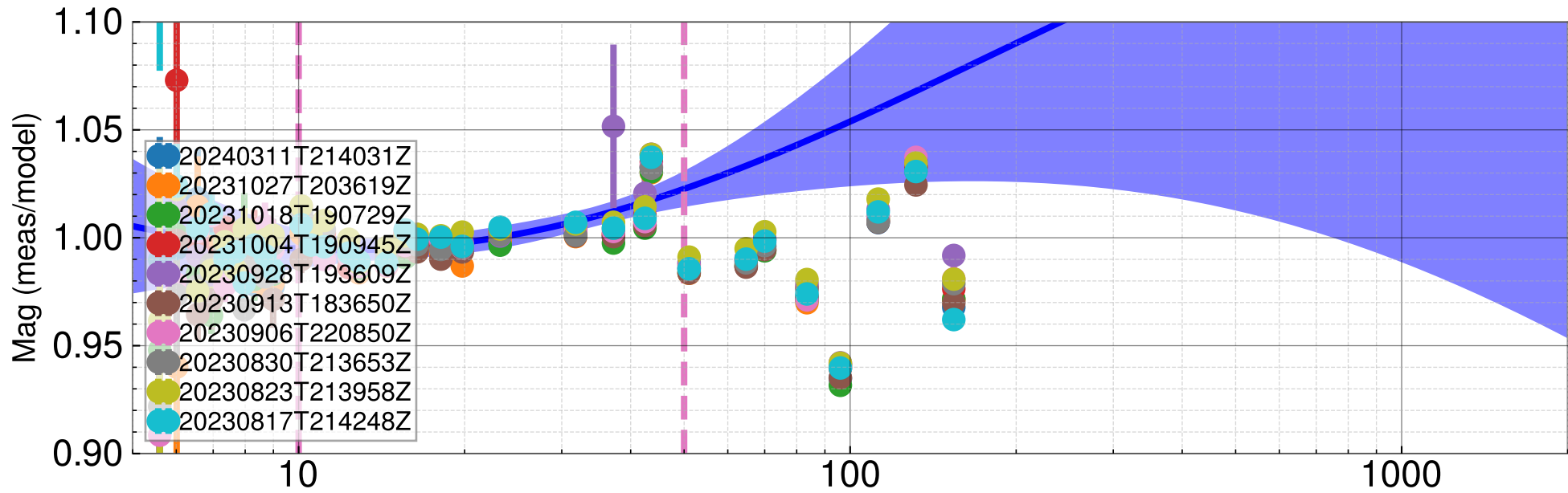
Actuation strength transfer functions  
(scaled by  $H_{ref}$ )



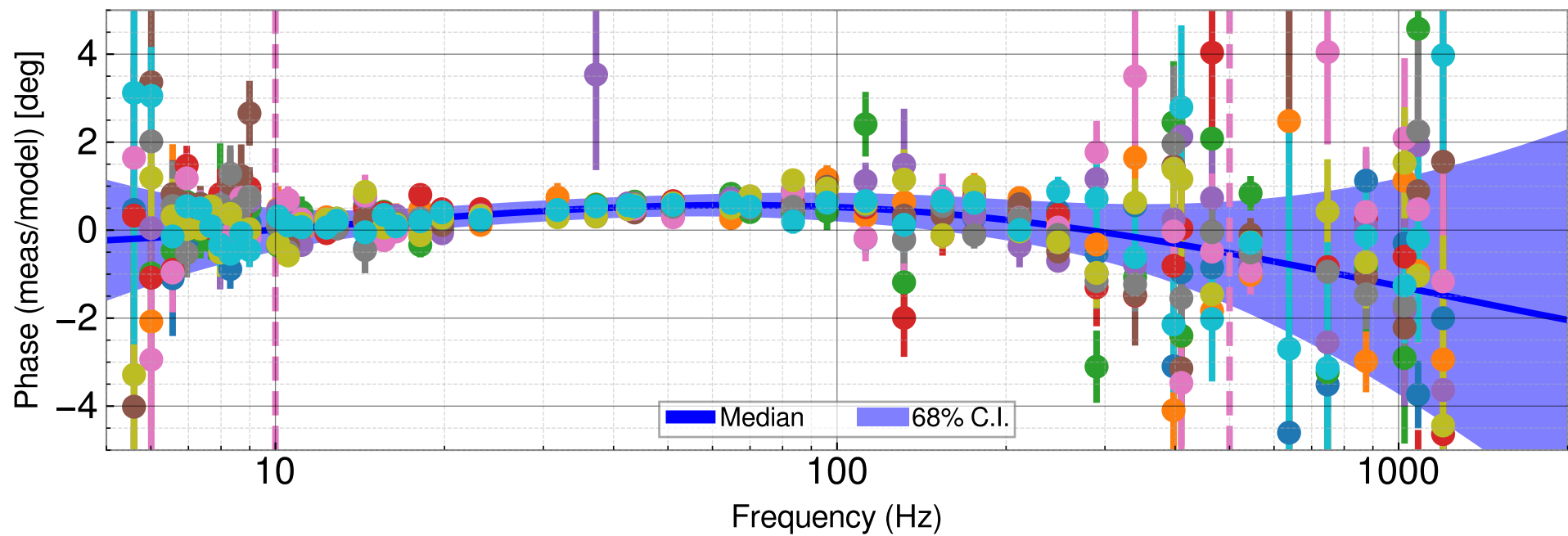
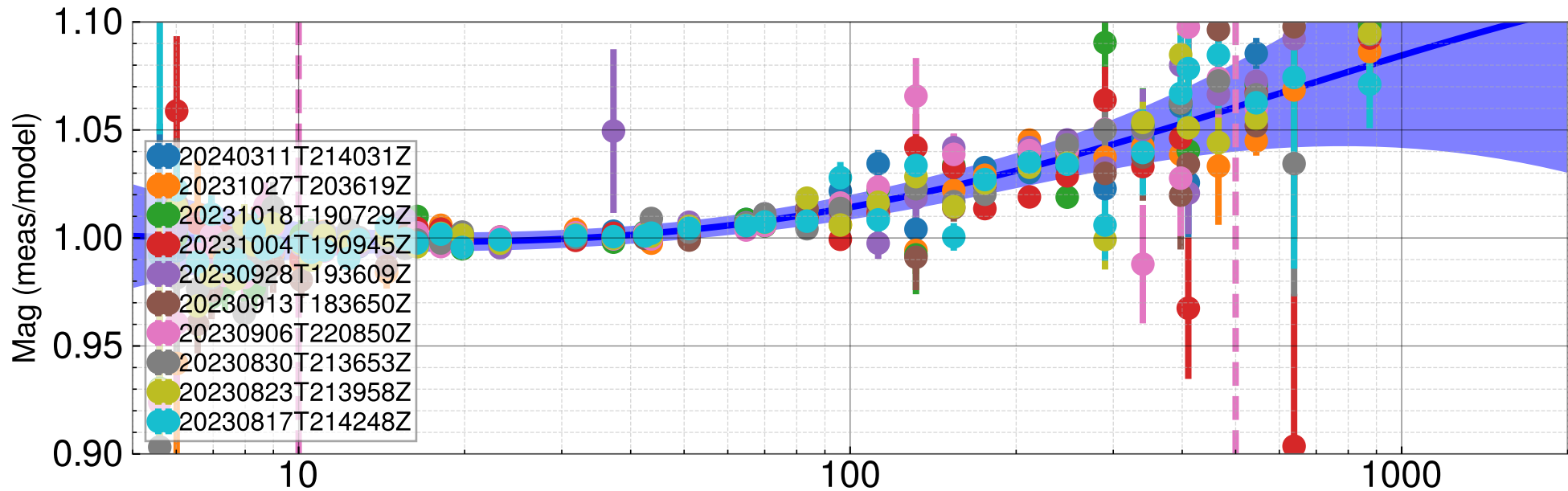
Actuation strength residuals  
(measurement/model w. free params)



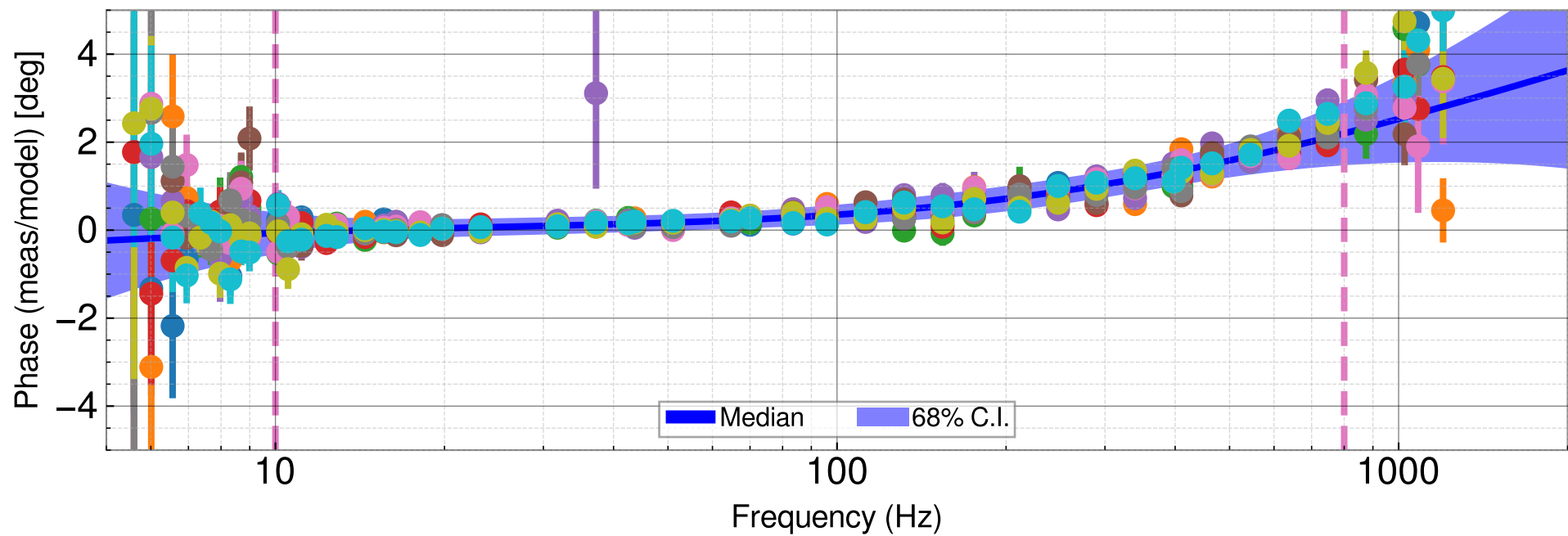
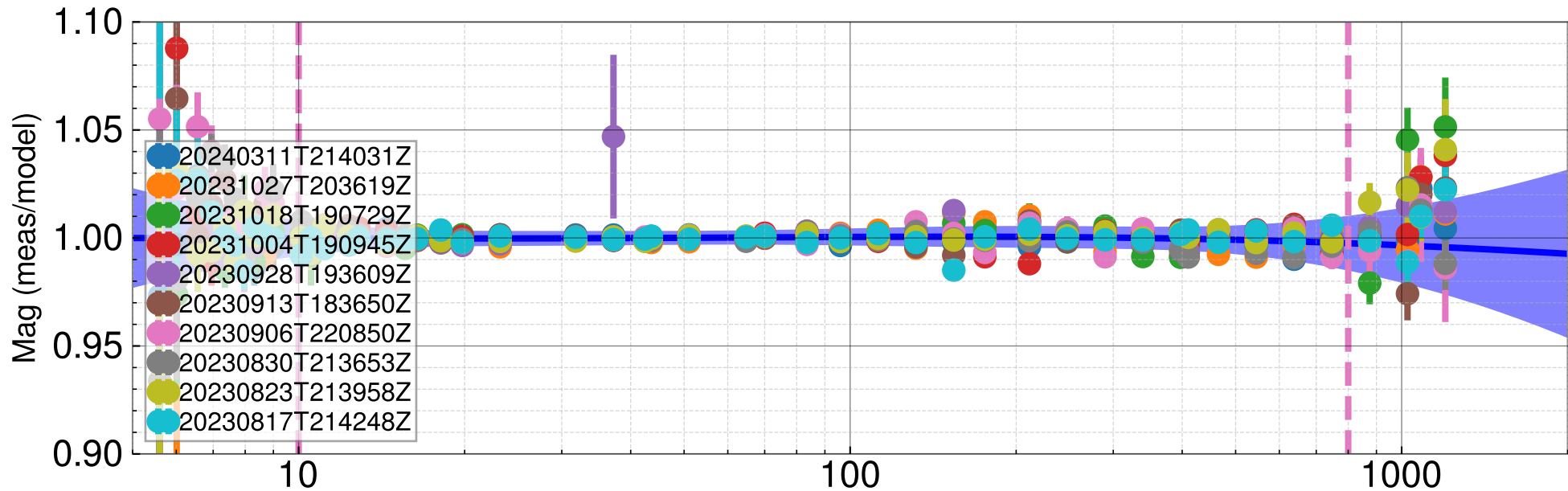
# Actuation/L1/EX GPR



# Actuation/L2/EX GPR

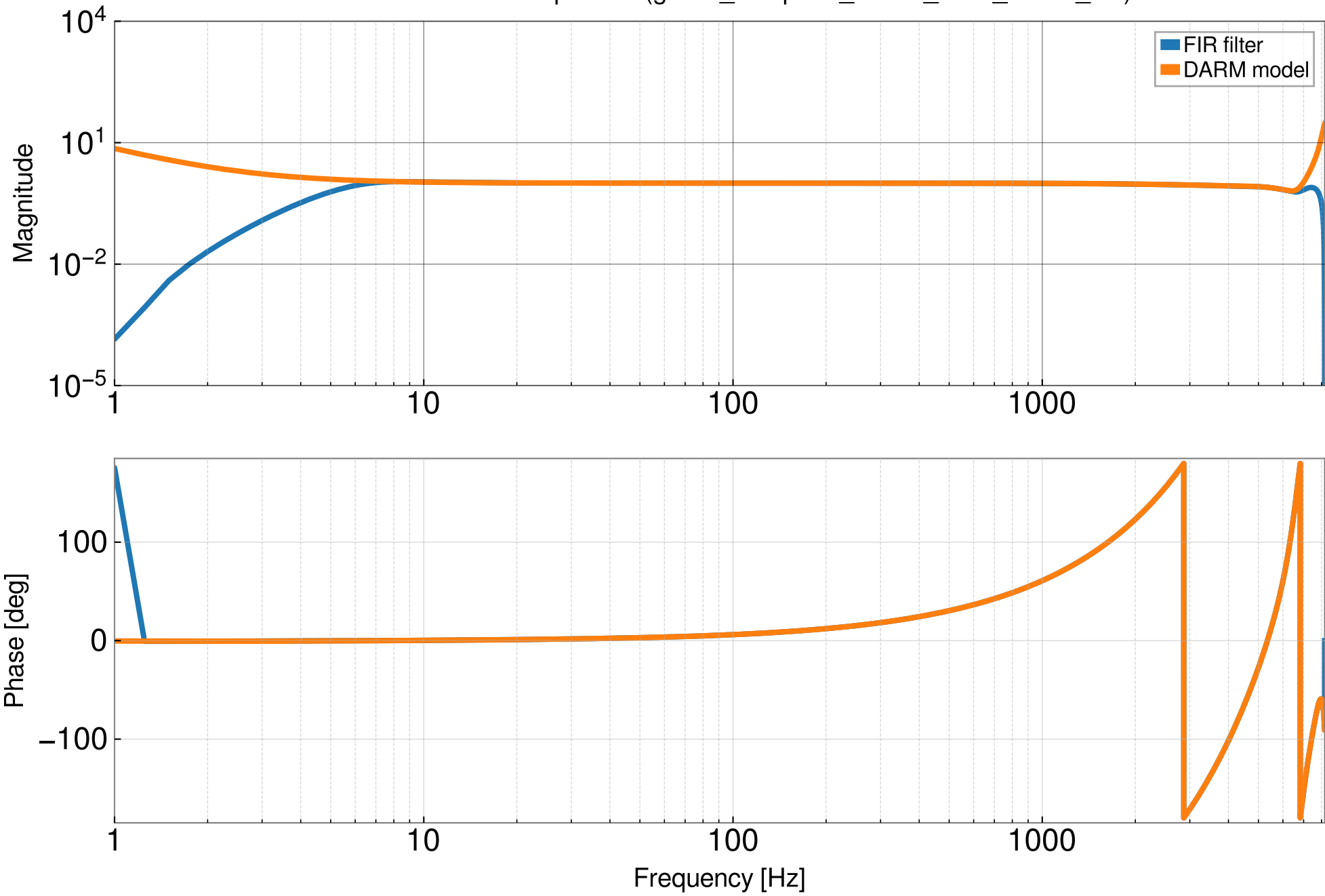


# Actuation/L3/EX GPR

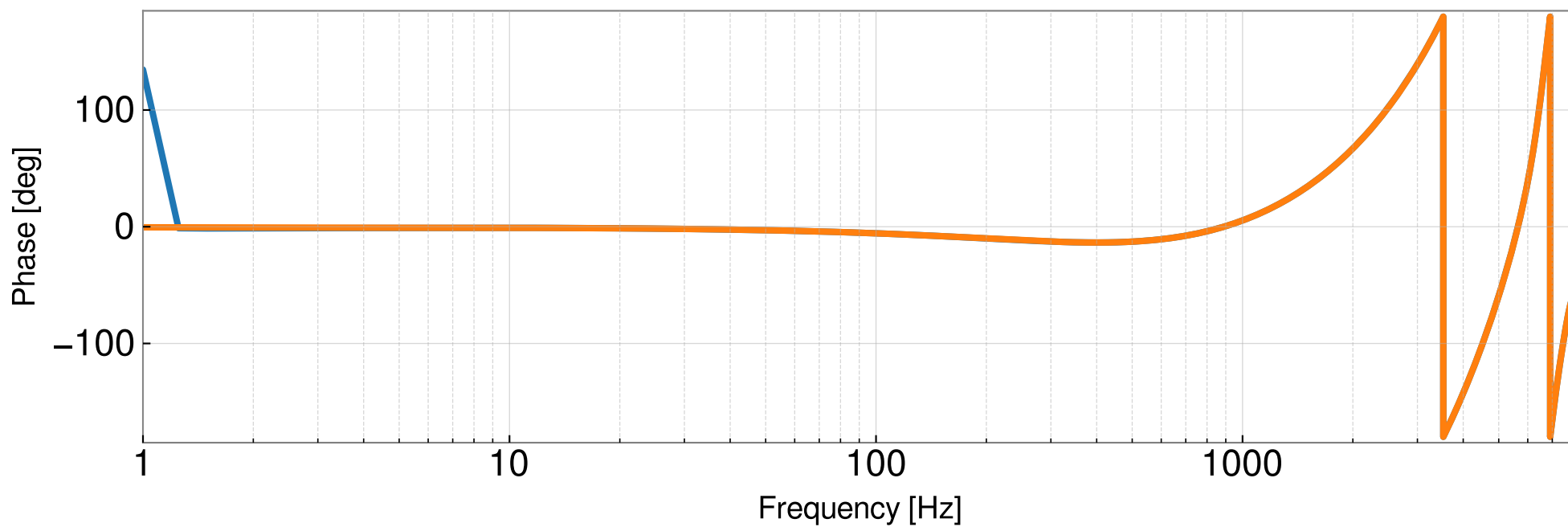
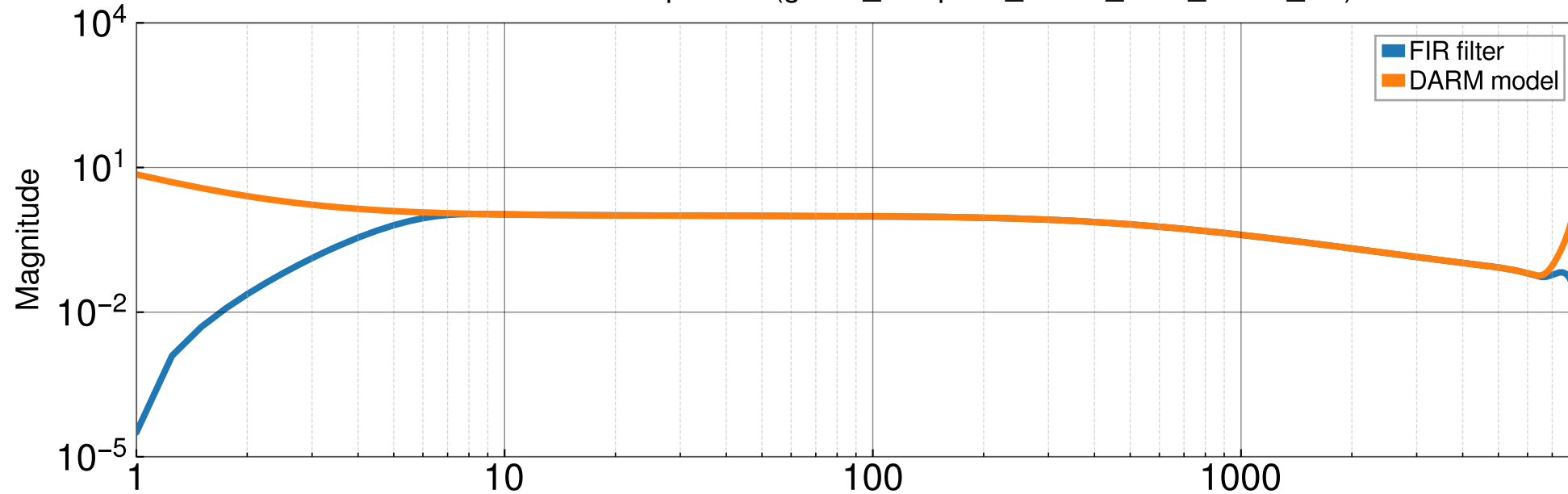




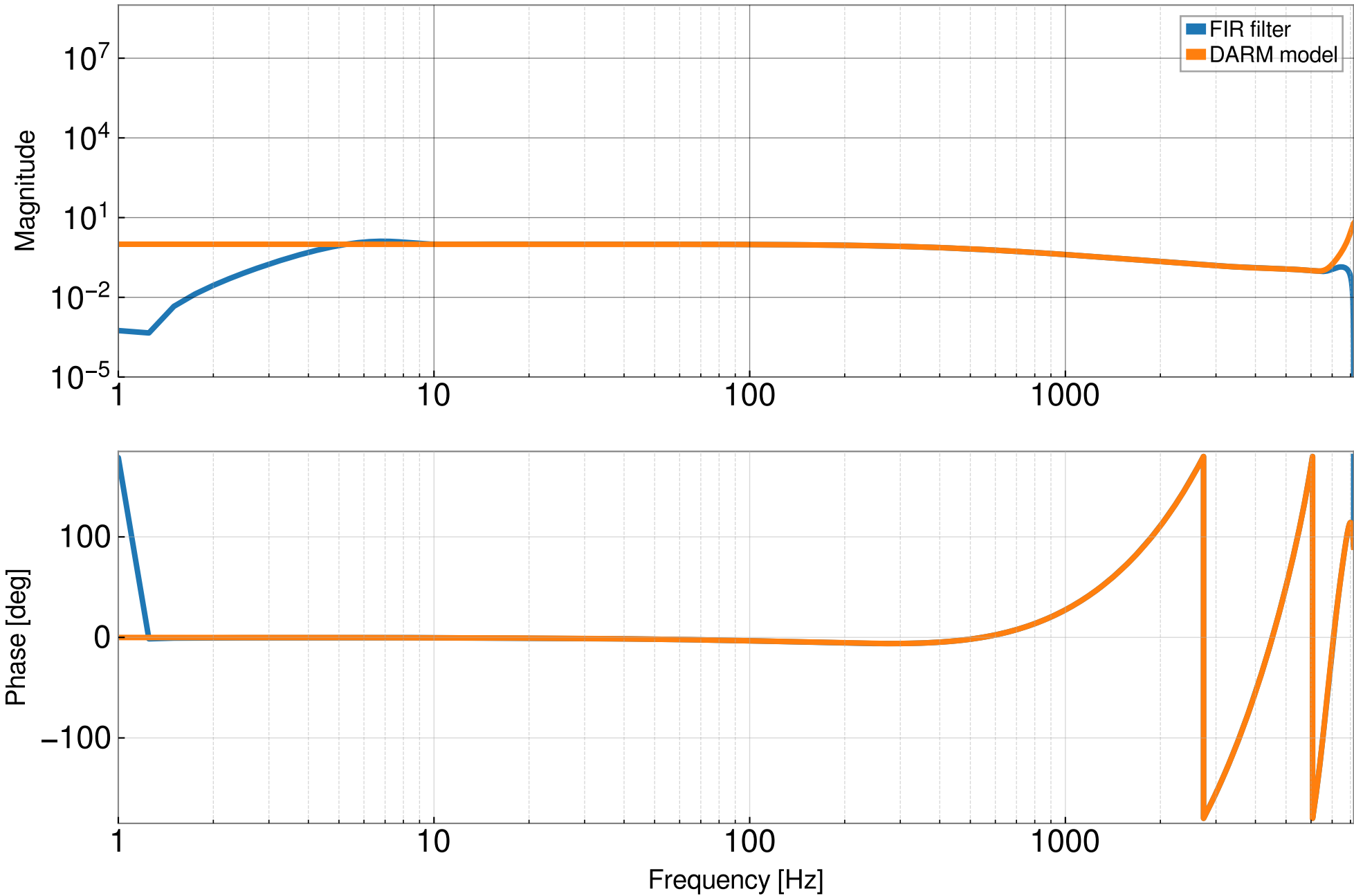
Residual corrections comparison (gstlal\\_compute\\_strain\\_C00\\_filters\\_H1)



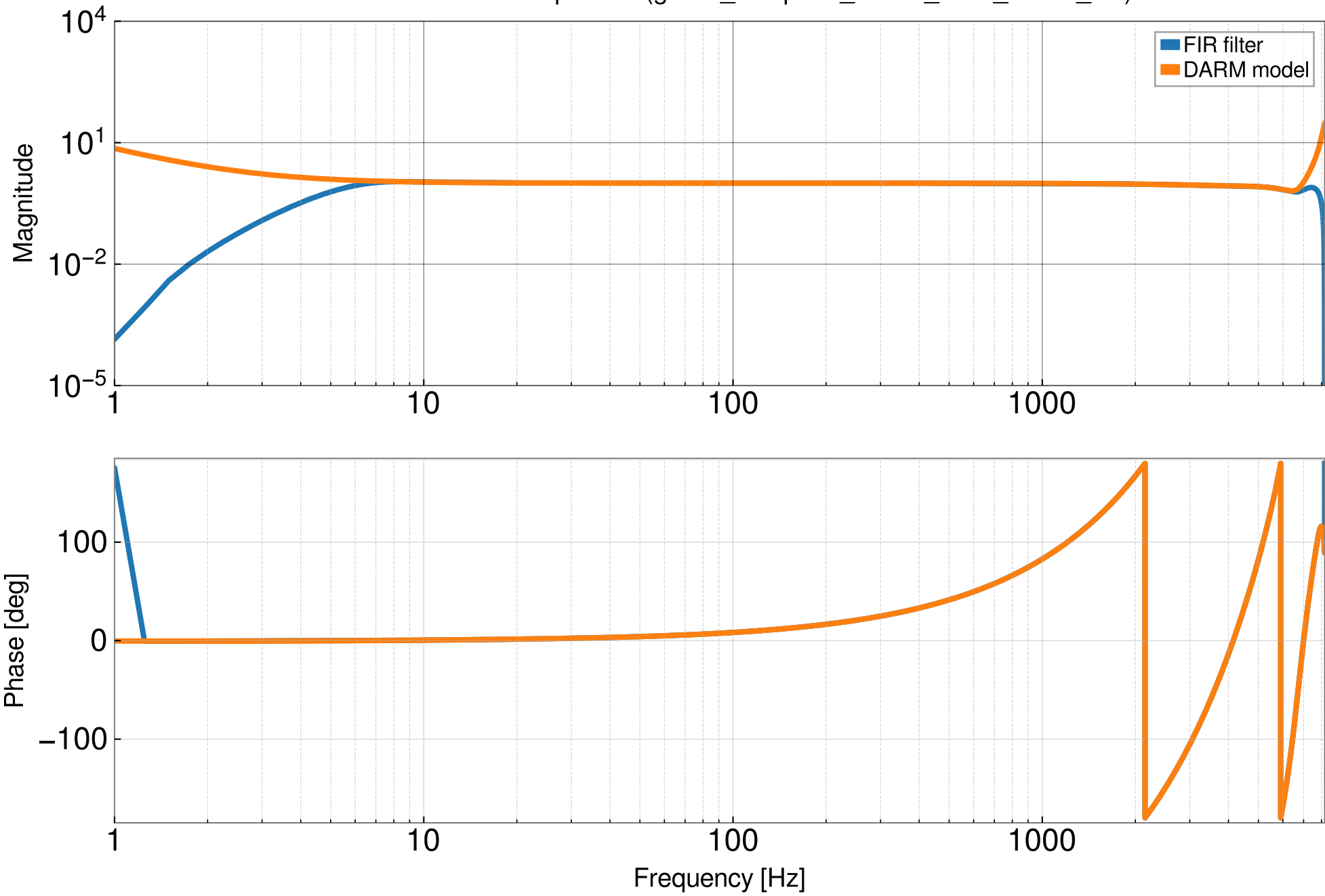
Res Corr No CC Pole comparison (gstlal\\_compute\\_strain\\_C00\\_filters\\_H1)



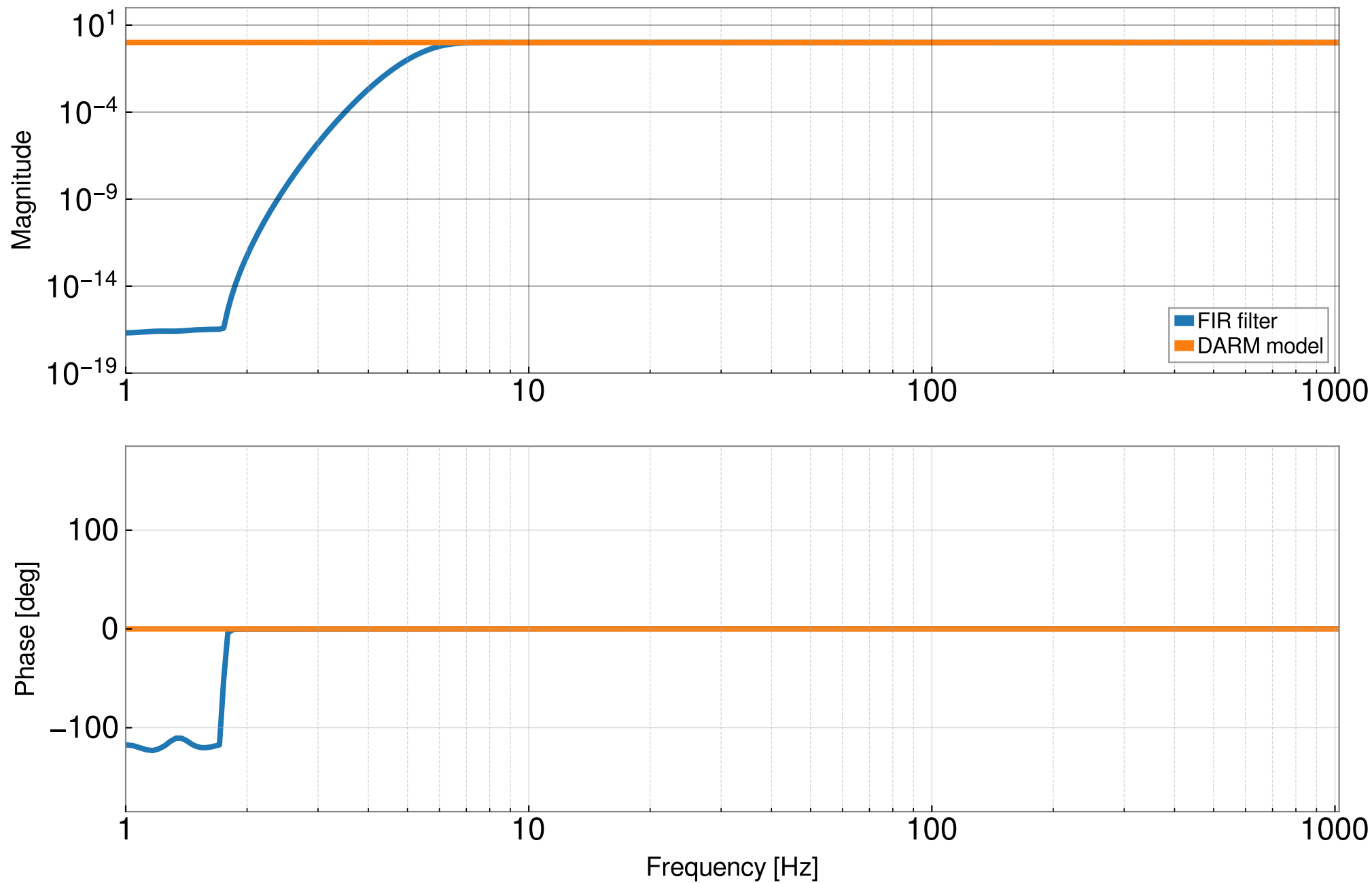
Res Corr No Pole comparison (gstlal\\_compute\\_strain\\_C00\\_filters\\_H1)



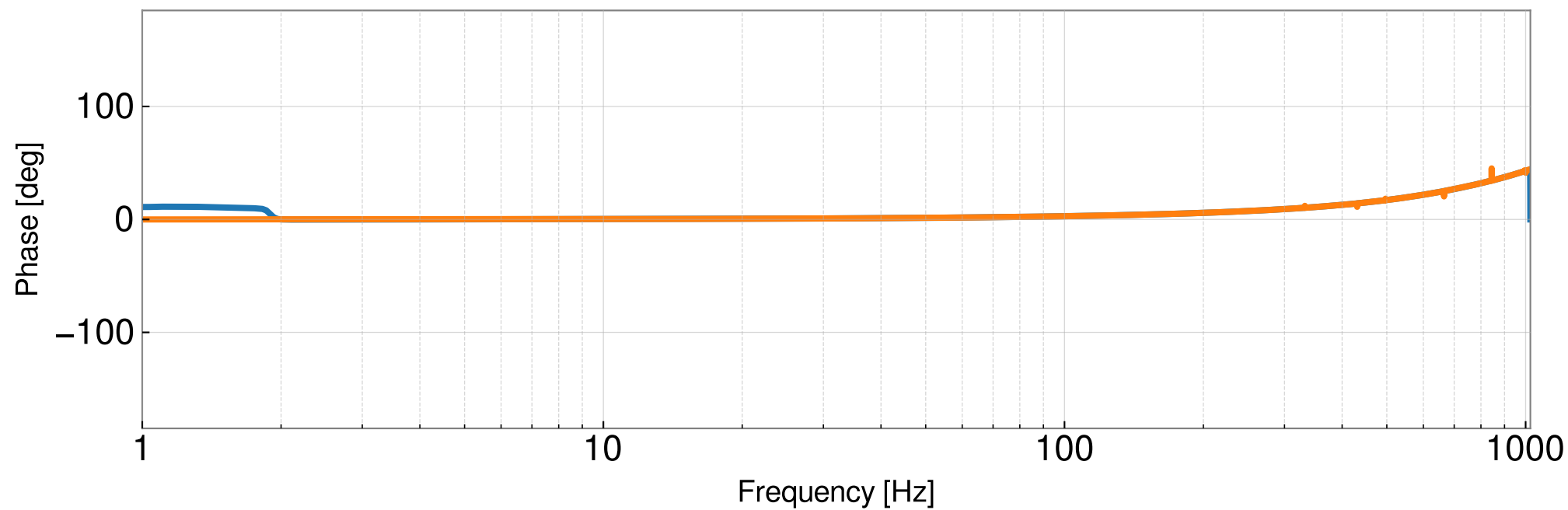
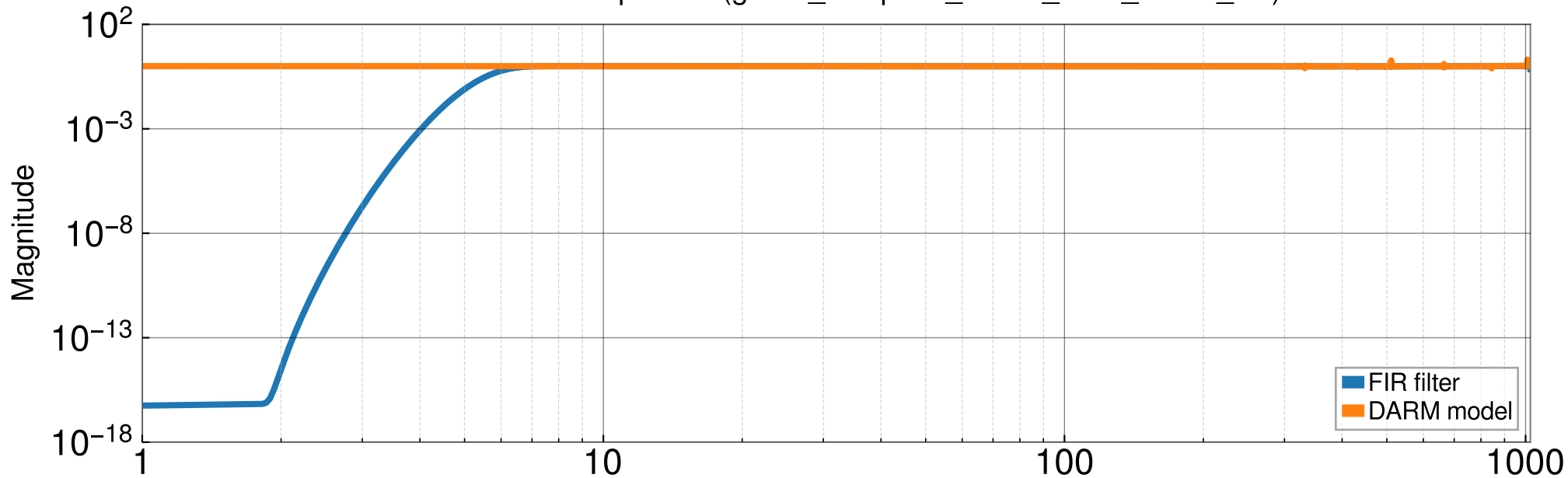
Nonsens corrections comparison (gstlal\\_compute\\_strain\\_C00\\_filters\\_H1)



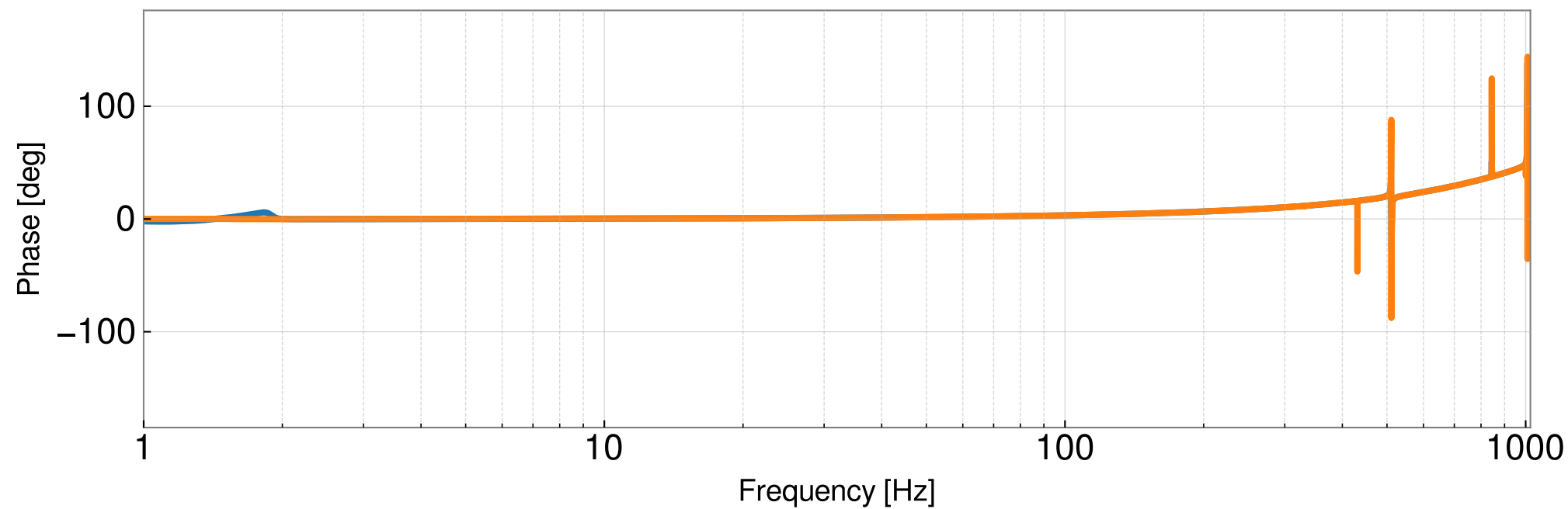
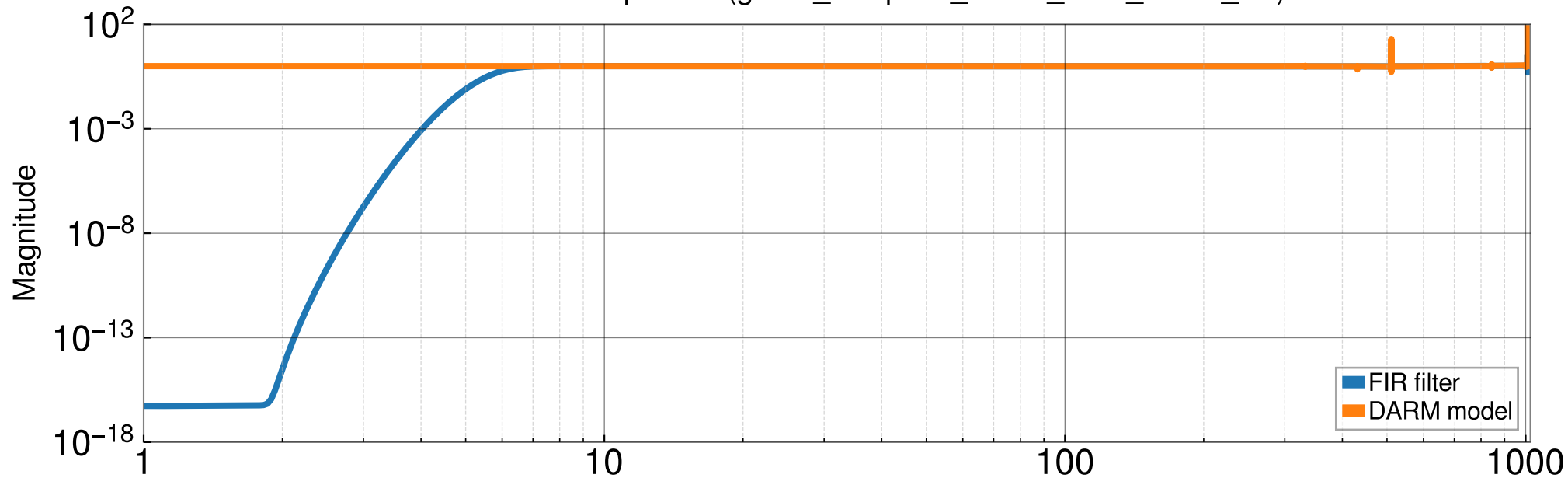
Residual corrections highpass comparison (gstlal\\_compute\\_strain\\_C00\\_filters\\_H1)



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)

