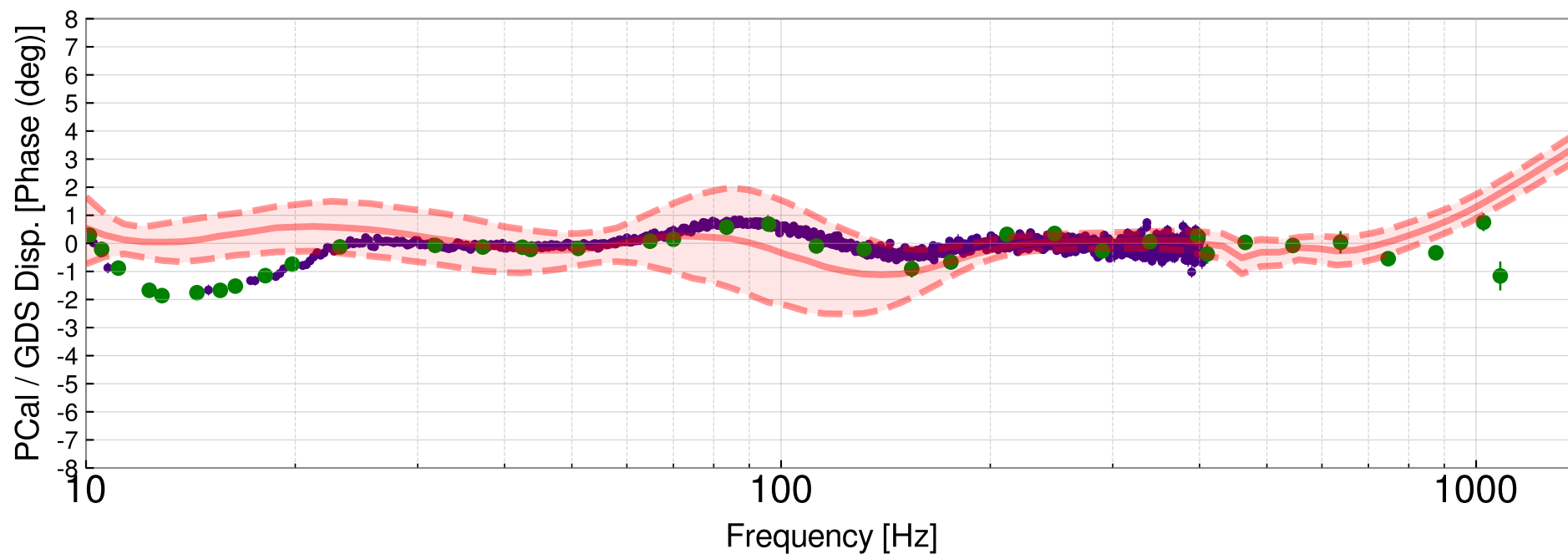
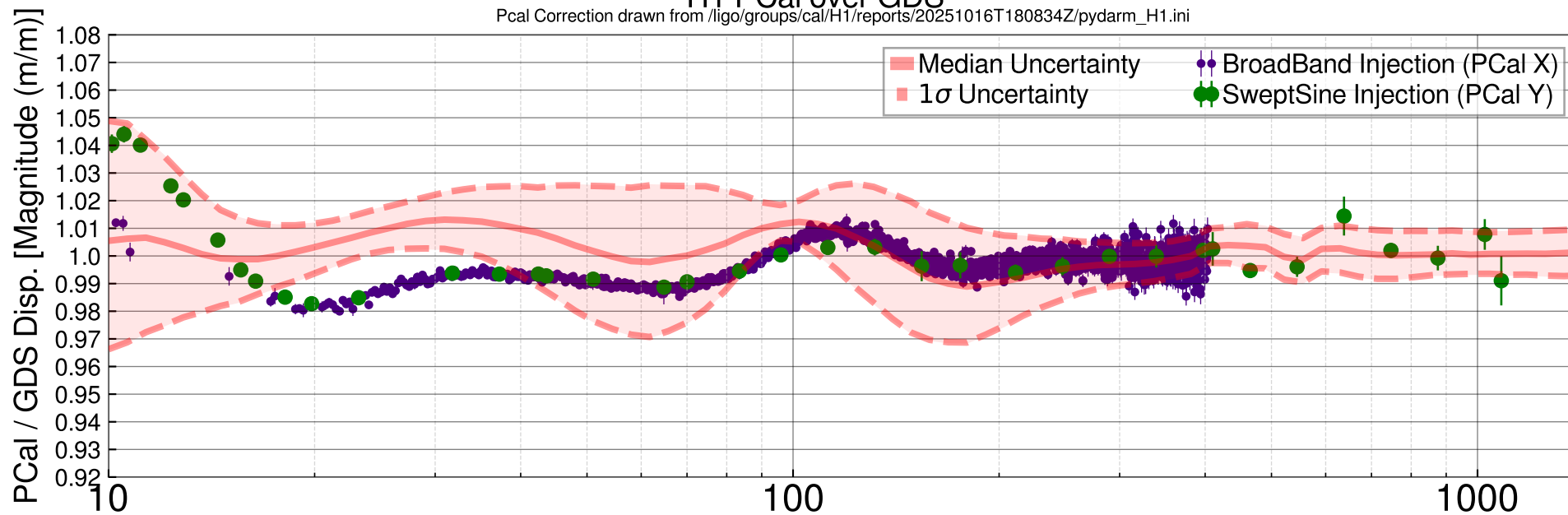


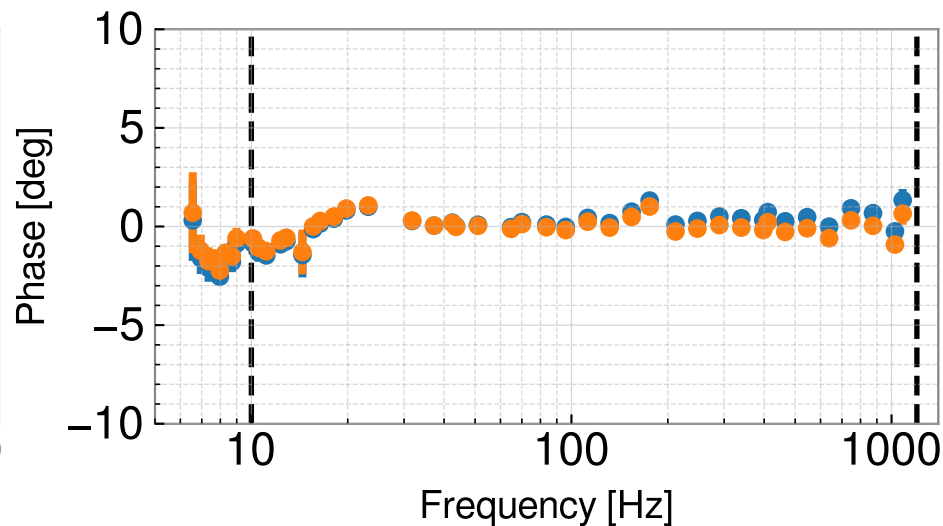
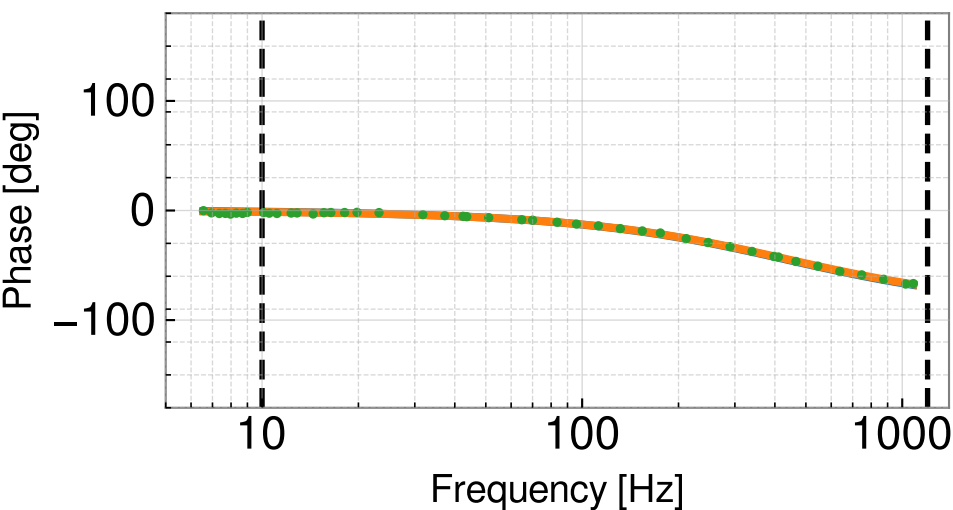
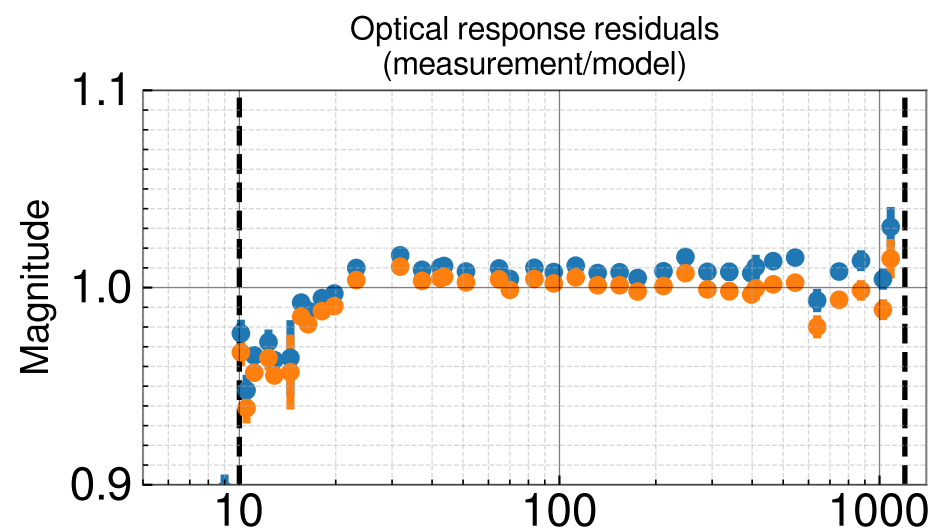
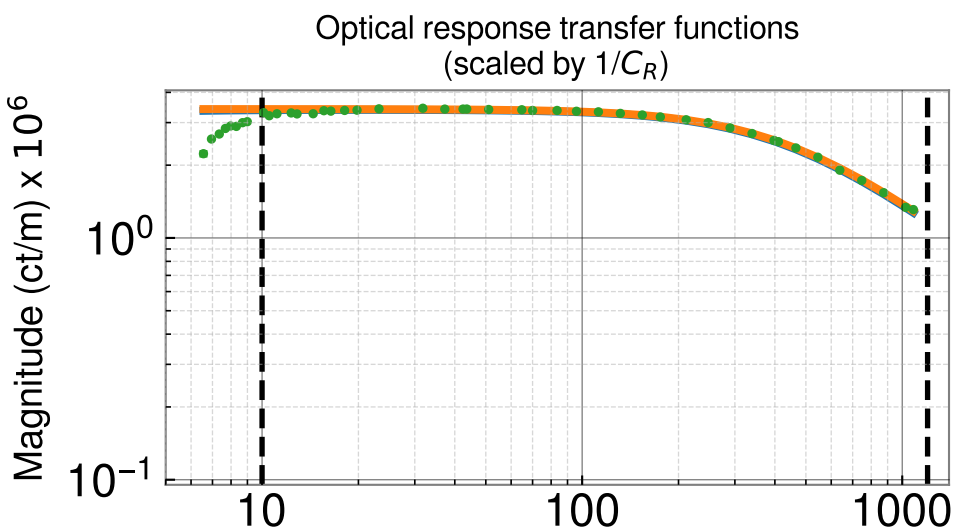
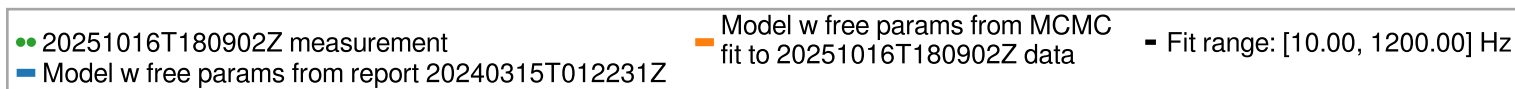
# H1 PCal over GDS

Pcal Correction drawn from /ligo/groups/cal/H1/reports/20251016T180834Z/pydarm\_H1.ini



# H1 sensing model MCMC summary

All fixed parameters drawn from `/ligo/groups/cal/H1/reports/20251016T180834Z/pydarm_H1.ini`

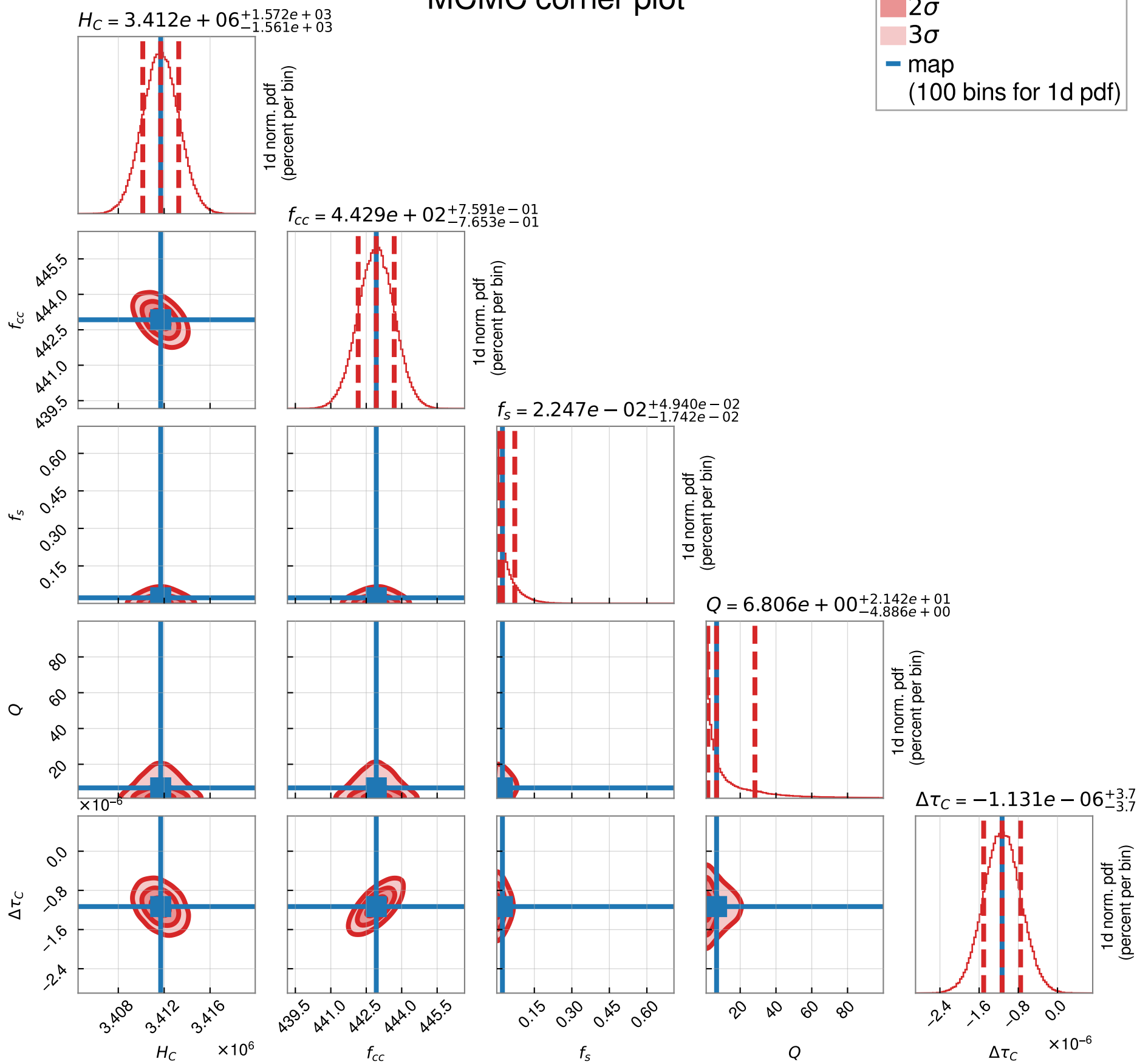


| Parameter                                | (value +/-)   value | +                   | -                   |
|------------------------------------------|---------------------|---------------------|---------------------|
| Optical gain, $H_c$ (ct/m)               | 3.412e+06           | 1572 (0.05%)        | 1561 (0.05%)        |
| Cavity_pole, $f_{cc}$ (Hz)               | 442.9               | 0.7591 (0.17%)      | 0.7653 (0.17%)      |
| Detuned SRC spring frequency, $f_s$ (Hz) | 0.02247             | 0.0494 (219.84%)    | 0.01742 (77.52%)    |
| Detuned SRC spring quality factor, $Q_s$ | 6.806               | 21.42 (314.79%)     | 4.886 (71.79%)      |
| Residual time delay, $\tau_c$ (s)        | -1.131e-06          | 3.777e-07 (-33.40%) | 3.763e-07 (-33.28%) |

2d pdf contours

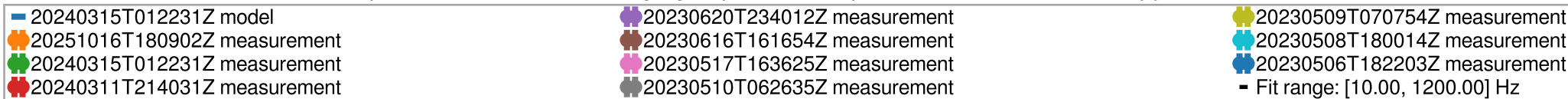
- $1\sigma$
- $2\sigma$
- $3\sigma$
- map

(100 bins for 1d pdf)

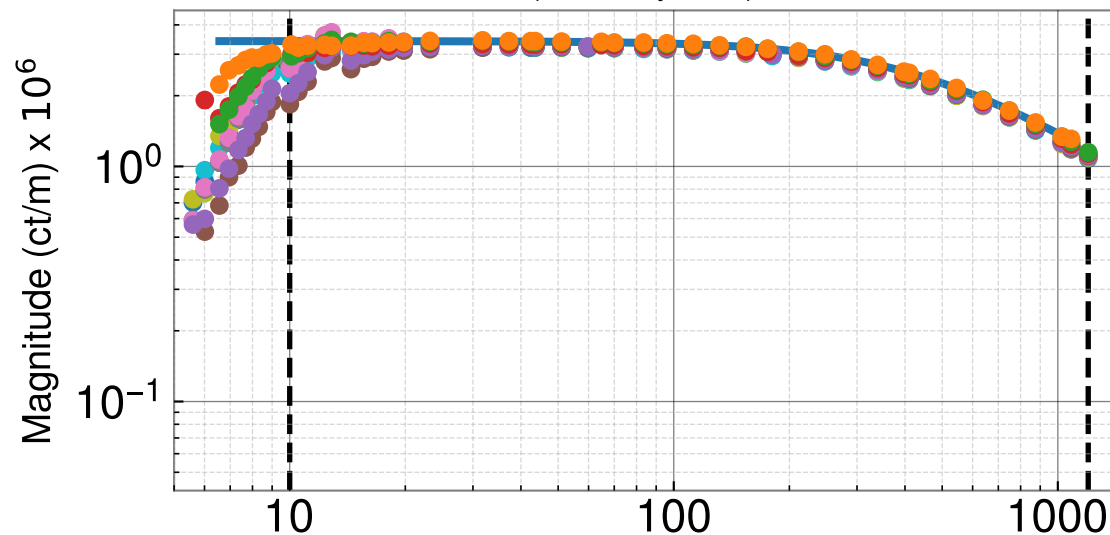


# H1 sensing model history (last 9 measurements)

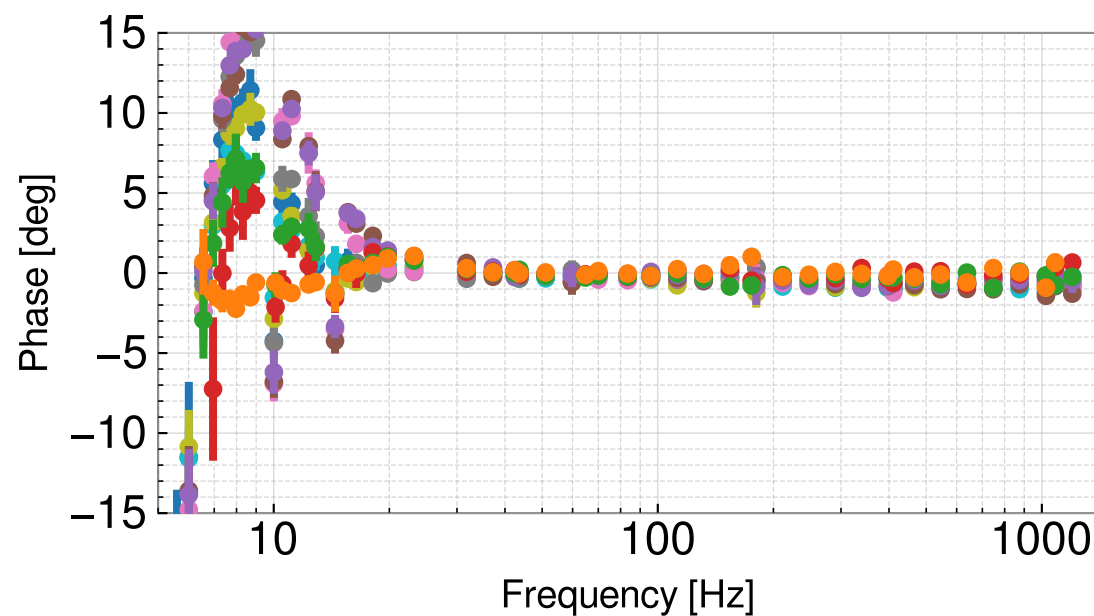
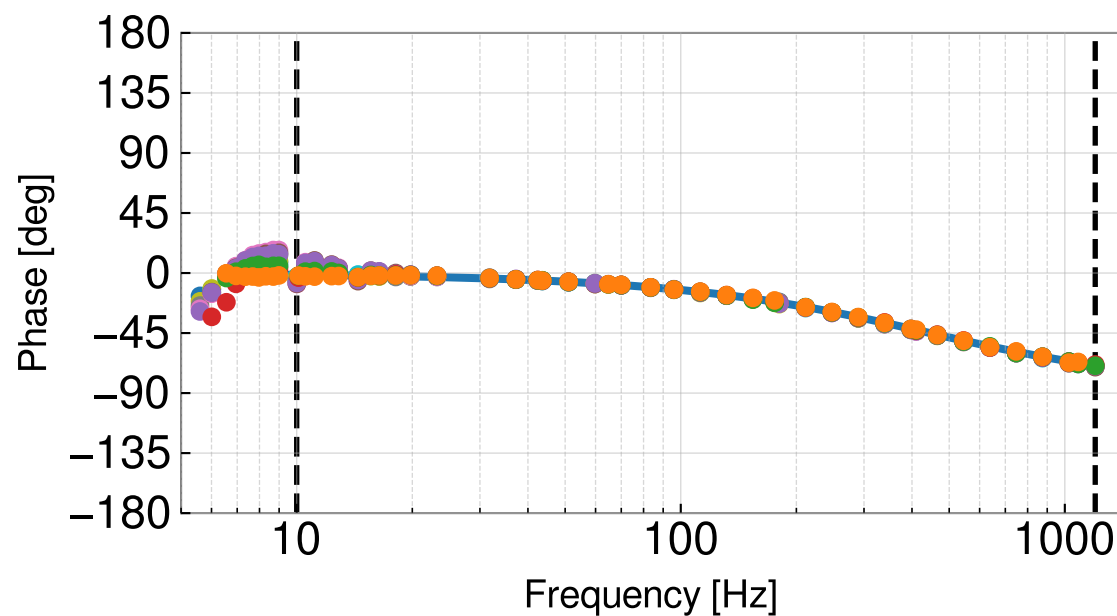
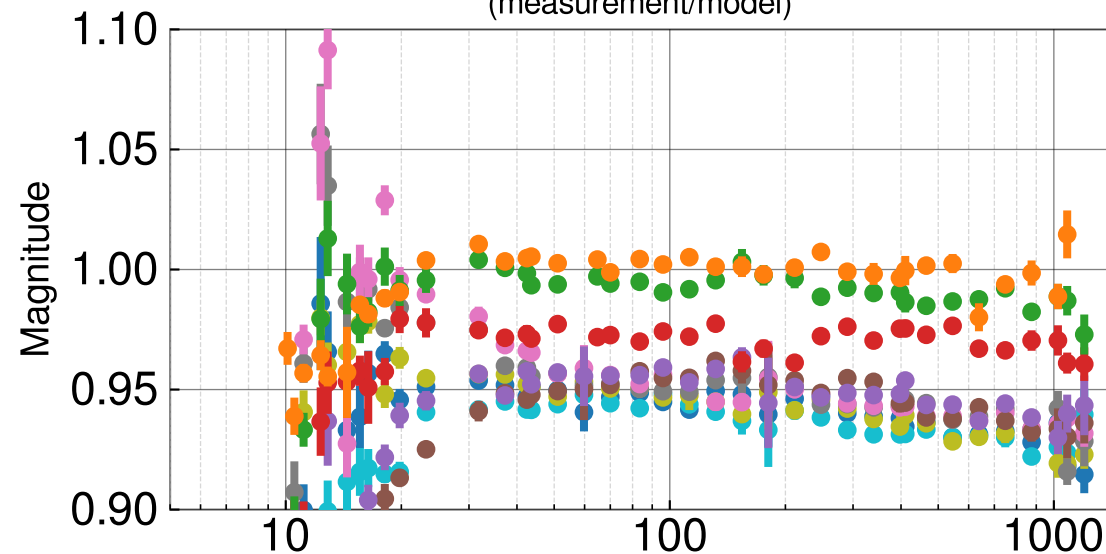
All fixed parameters drawn from /ligo/groups/cal/H1/reports/20251016T180834Z/pydarm\_H1.ini



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

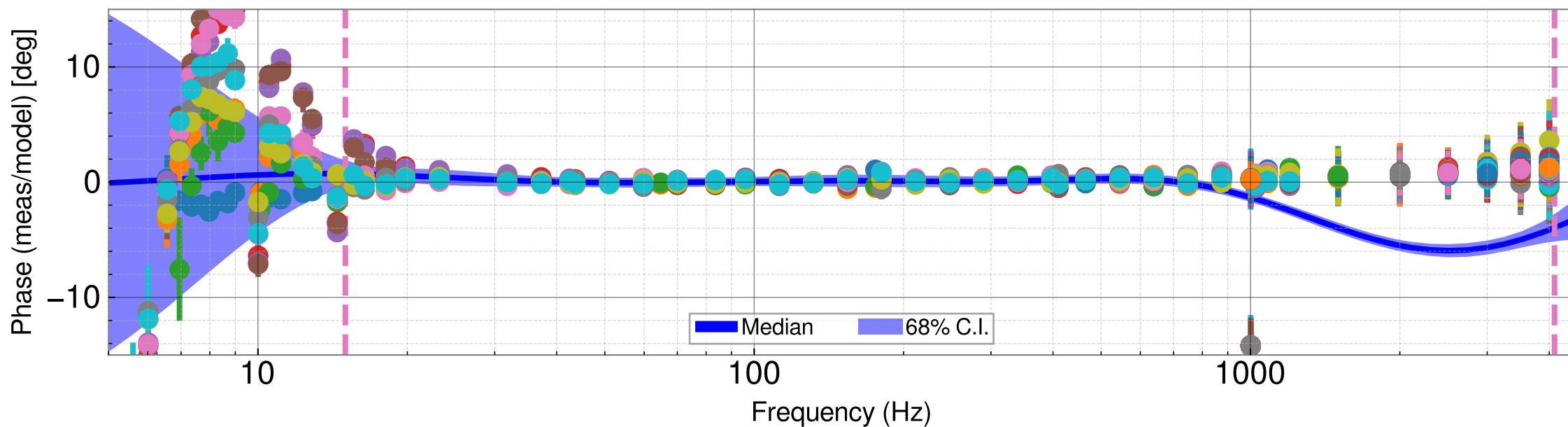
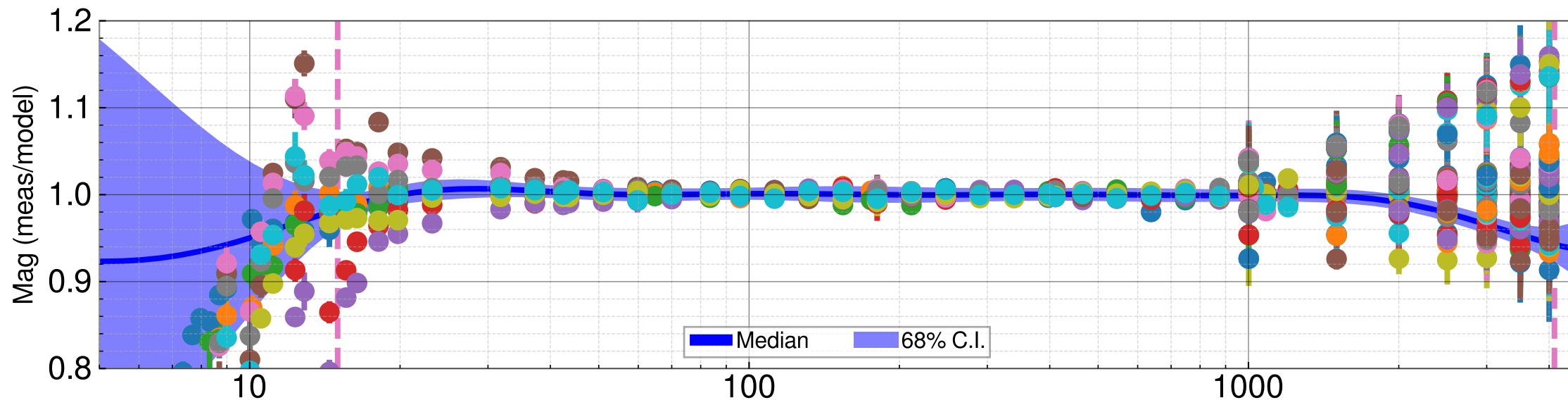


Optical response residuals  
(measurement/model)



# Sensing GPR

meas. 20251016T180902Z of report 20251016T180834Z  
meas. 20240315T012251Z of report 20240315T012231Z  
meas. 20240311T214051Z of report 20240311T214031Z  
meas. 20230620T235739Z of report 20230620T234012Z  
meas. 20230616T163421Z of report 20230616T161654Z  
meas. 20230517T154006Z of report 20230517T163625Z  
meas. 20230508T170355Z of report 20230508T180014Z  
meas. 20230510T064402Z of report 20230510T062635Z  
meas. 20230509T061135Z of report 20230509T070754Z  
meas. 20230506T172544Z of report 20230506T182203Z

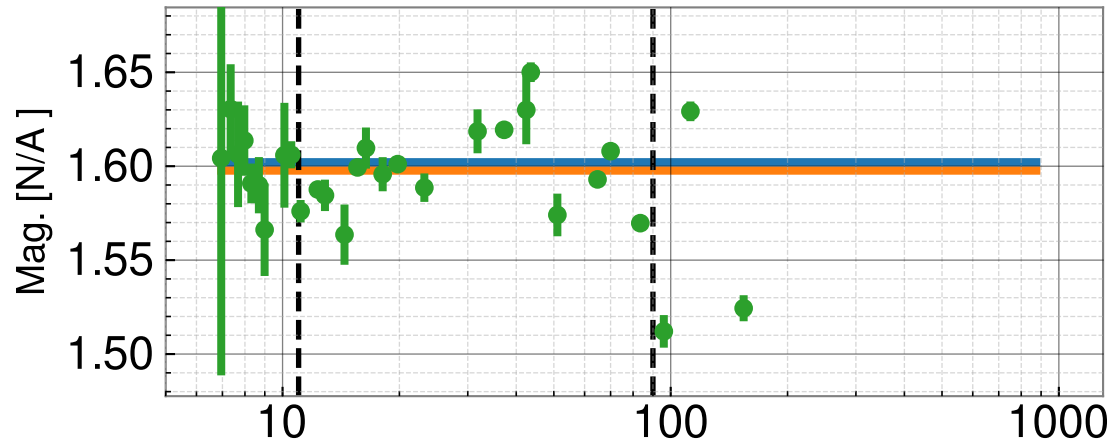


# H1SUSEX L1 actuation model MCMC summary

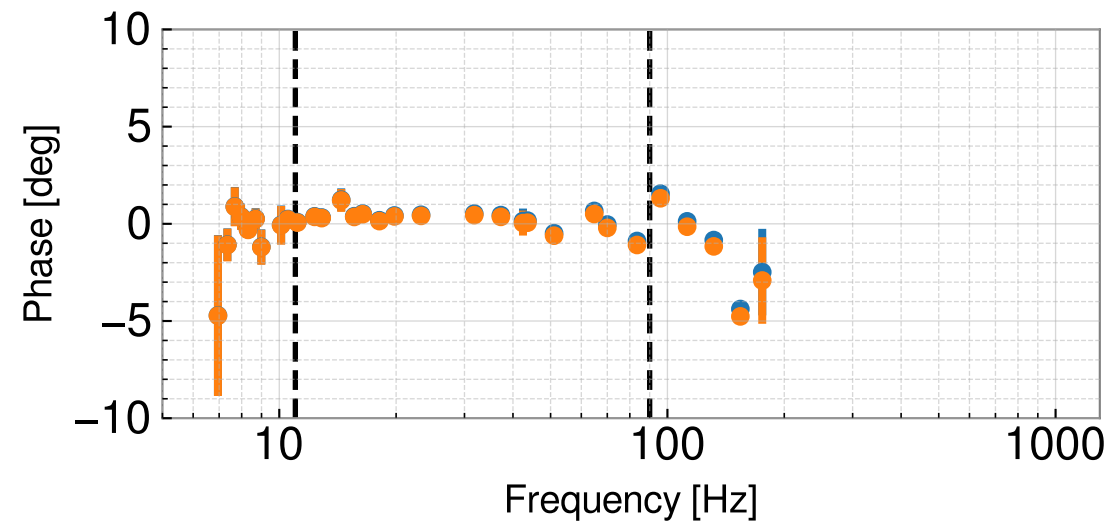
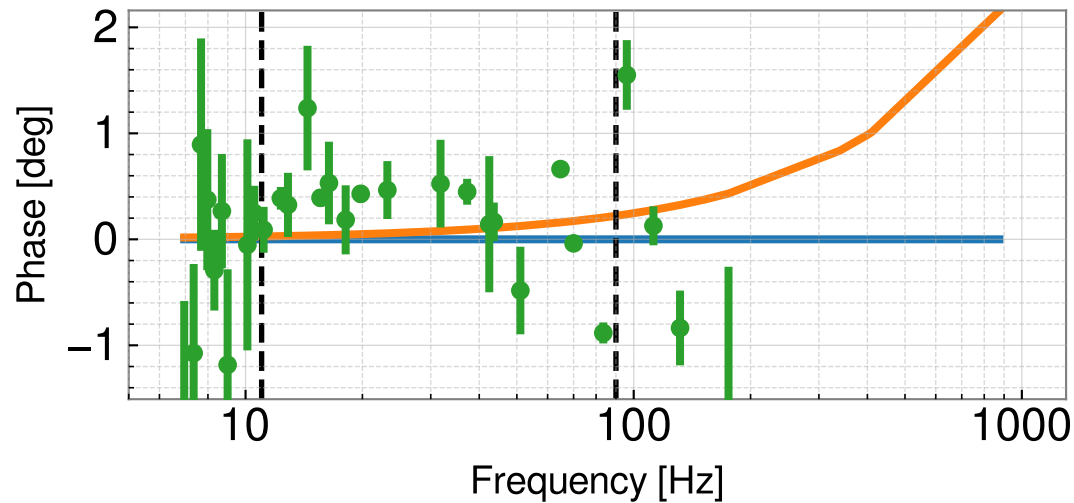
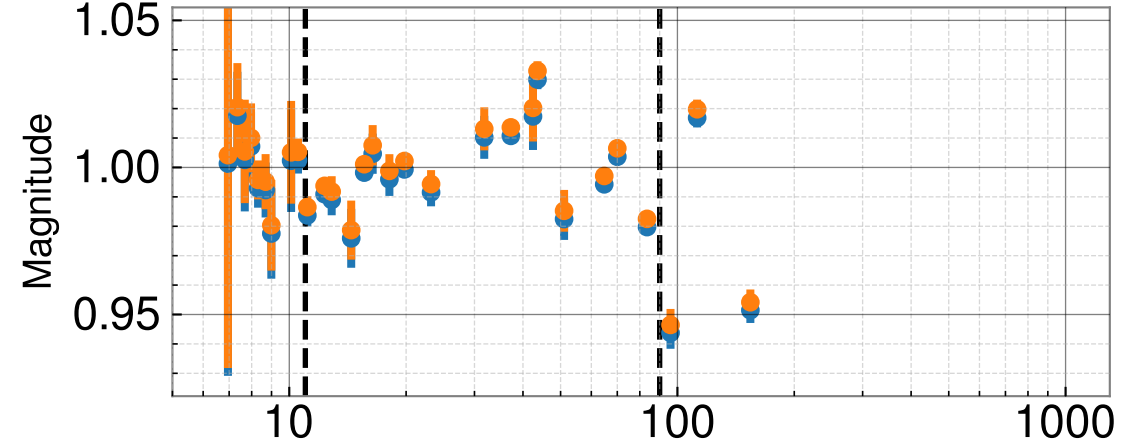
All fixed parameters drawn from /ligo/groups/cal/H1/reports/20251016T180834Z/pydarm\_H1.ini



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

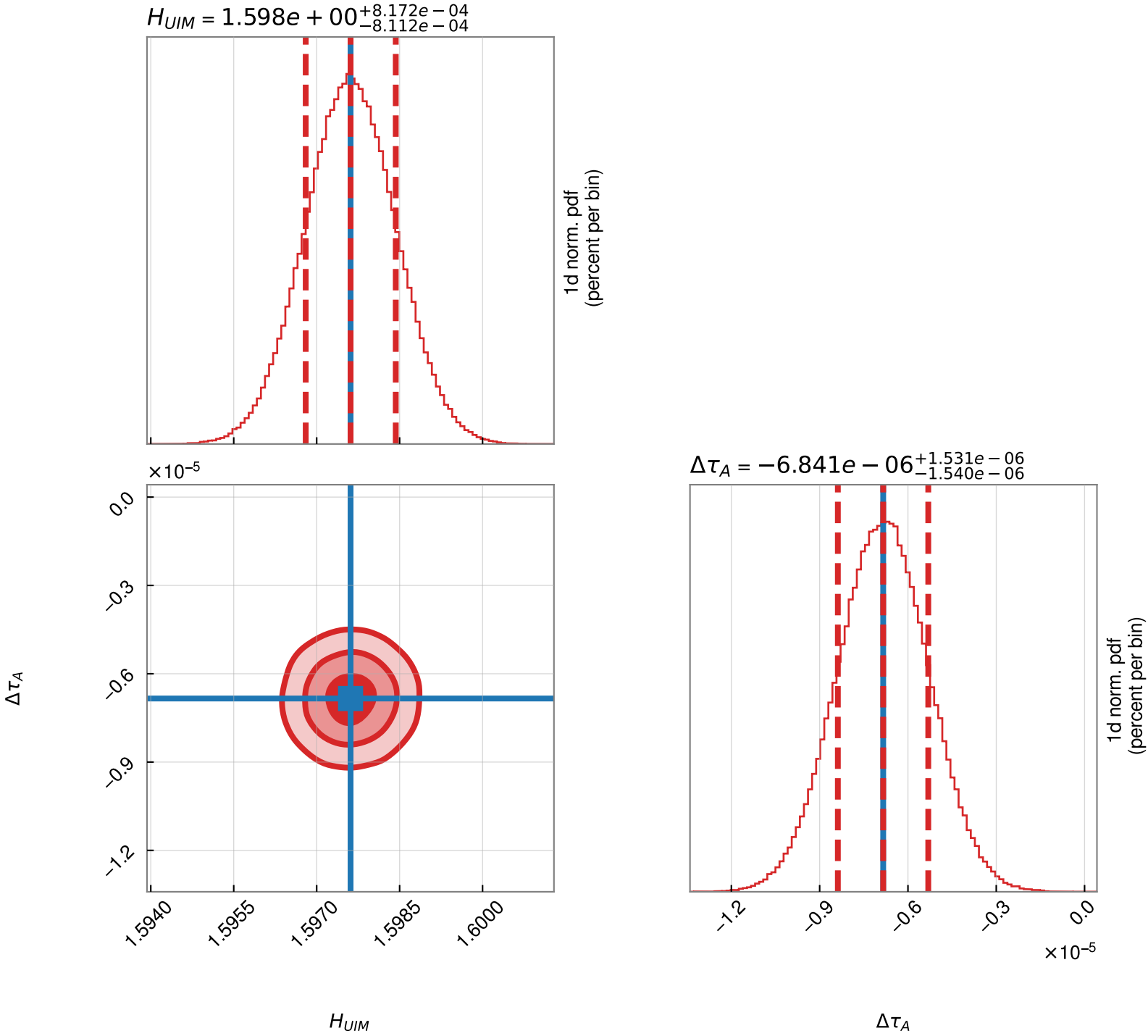
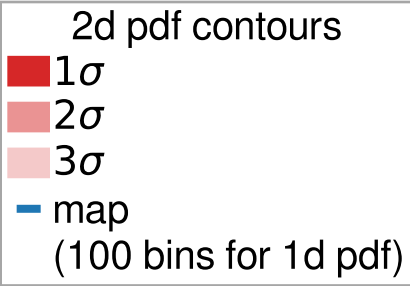


Actuation strength residuals  
(meas./model w. free params)



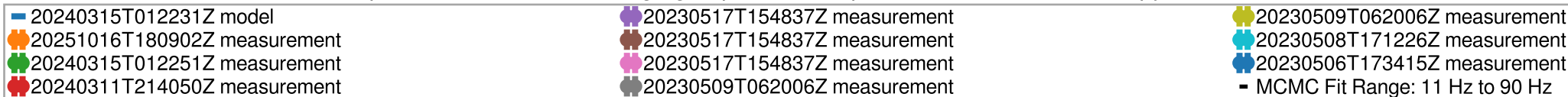
| Parameter                      | (value +/-)   value | +                   | -                  |
|--------------------------------|---------------------|---------------------|--------------------|
| Actuation Gain, Hau (N/A)      | 1.598               | 0.0008172 (0.05%)   | 0.0008112 (0.05%)  |
| Residual time delay, tau_A (s) | -6.841e-06          | 1.531e-06 (-22.38%) | 1.54e-06 (-22.52%) |

20251016T180902Z EX L1 actuation  
MCMC corner plot

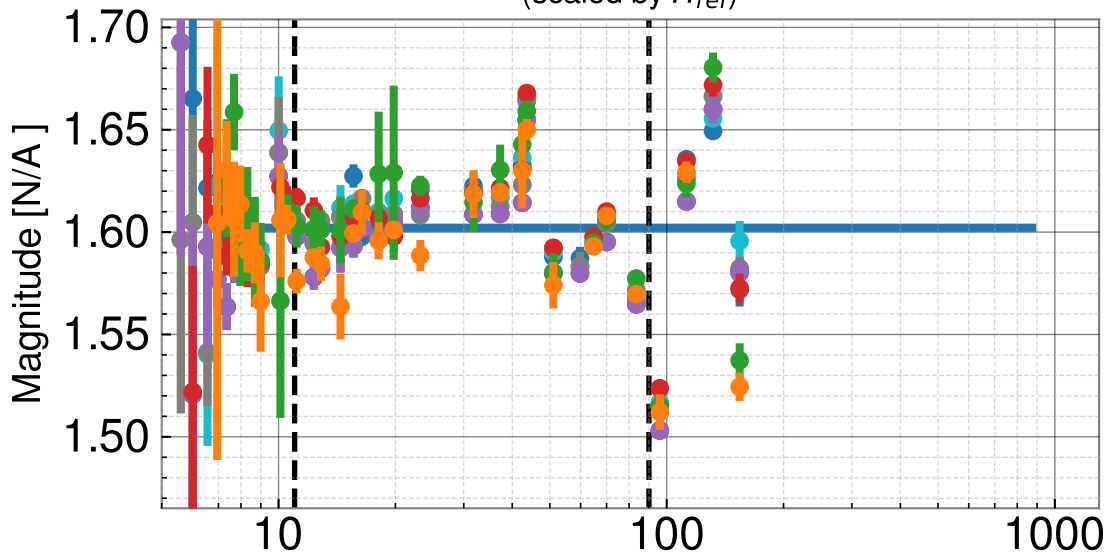


# H1SUSEX L1 actuation model history (last 9 measurements)

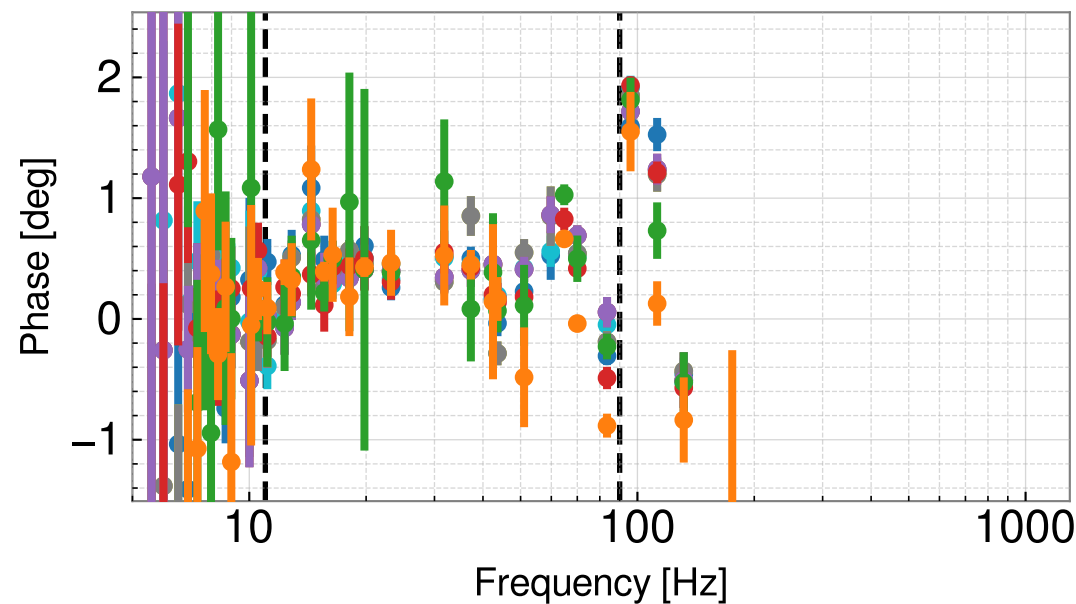
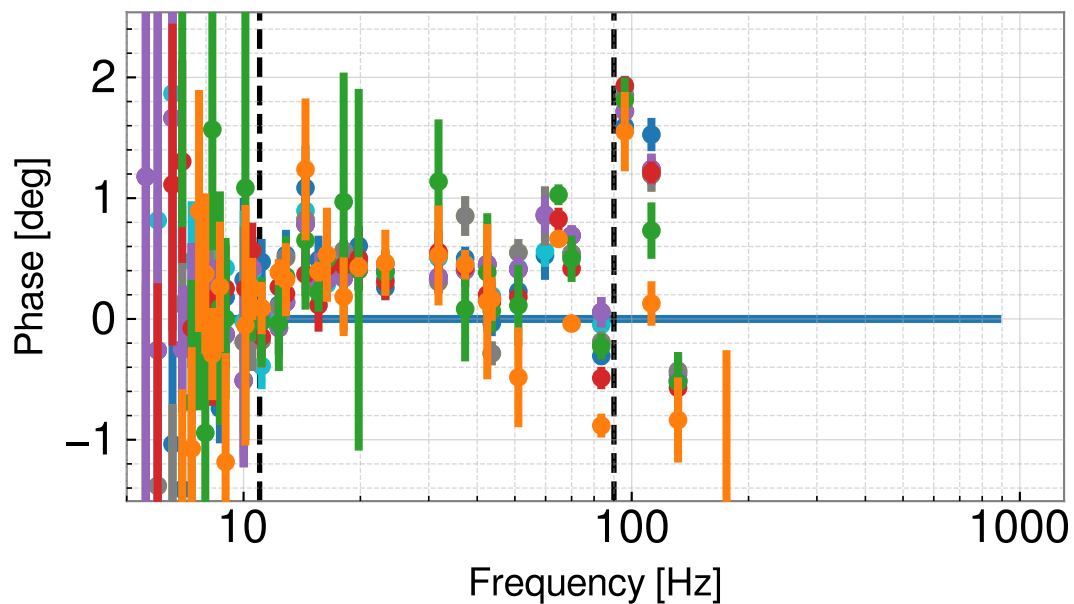
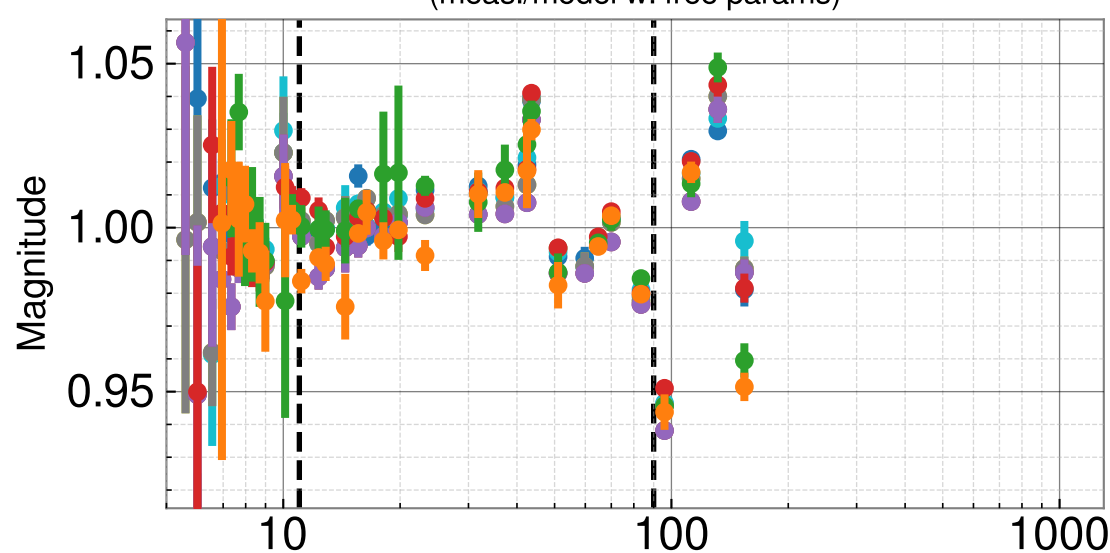
All fixed parameters drawn from /ligo/groups/cal/H1/reports/20251016T180834Z/pydarm\_H1.ini



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

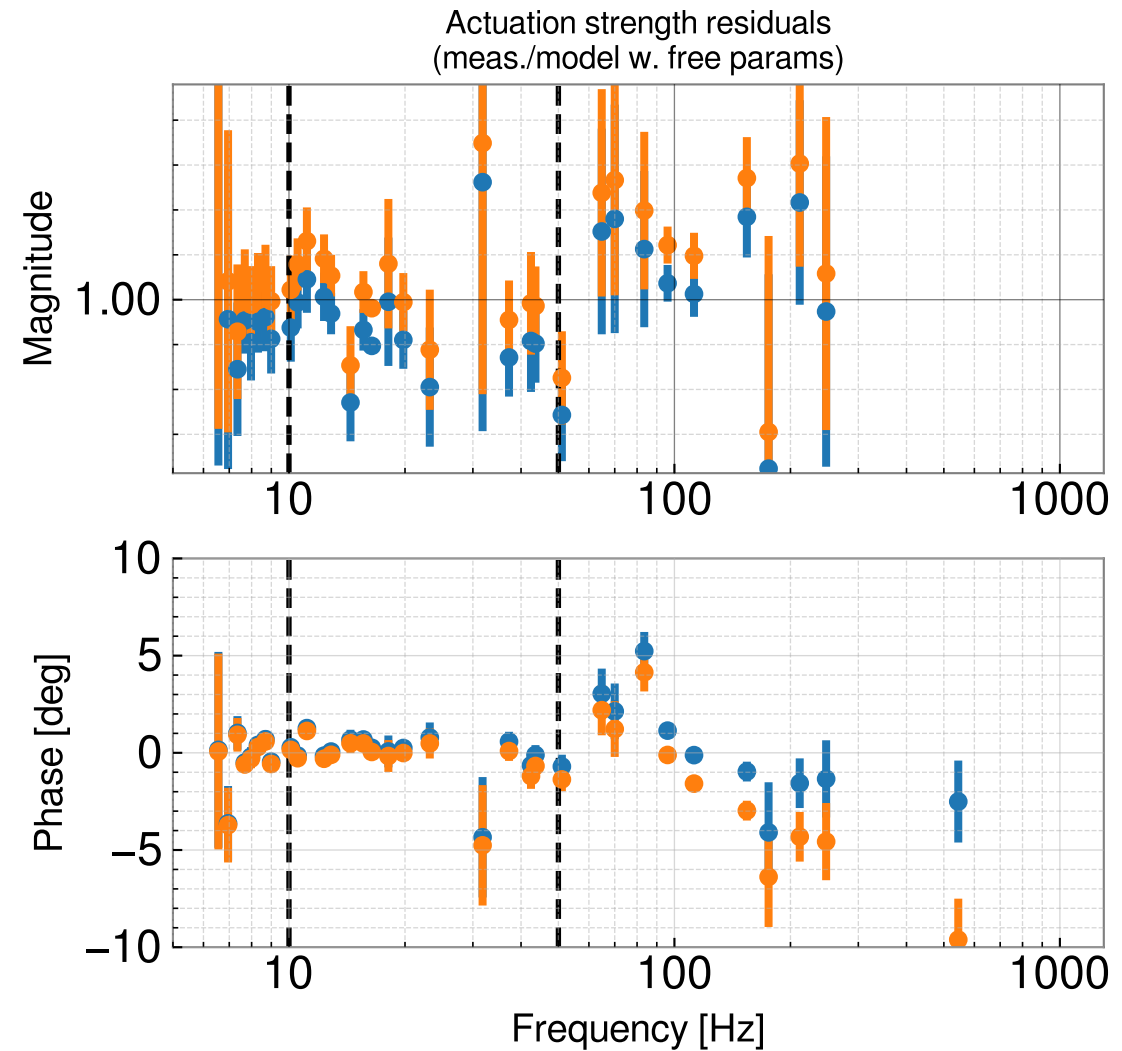
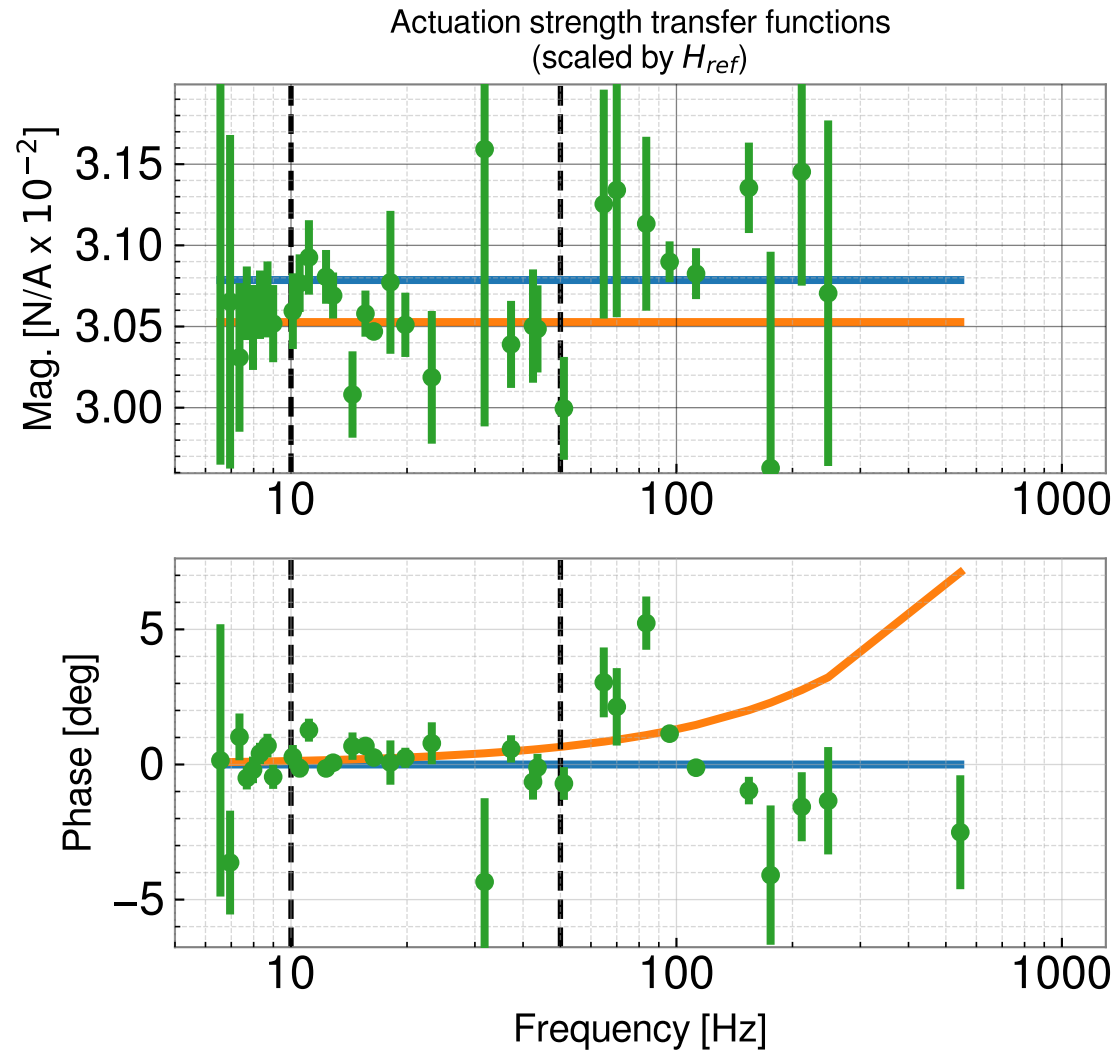


Actuation strength residuals  
(meas./model w. free params)



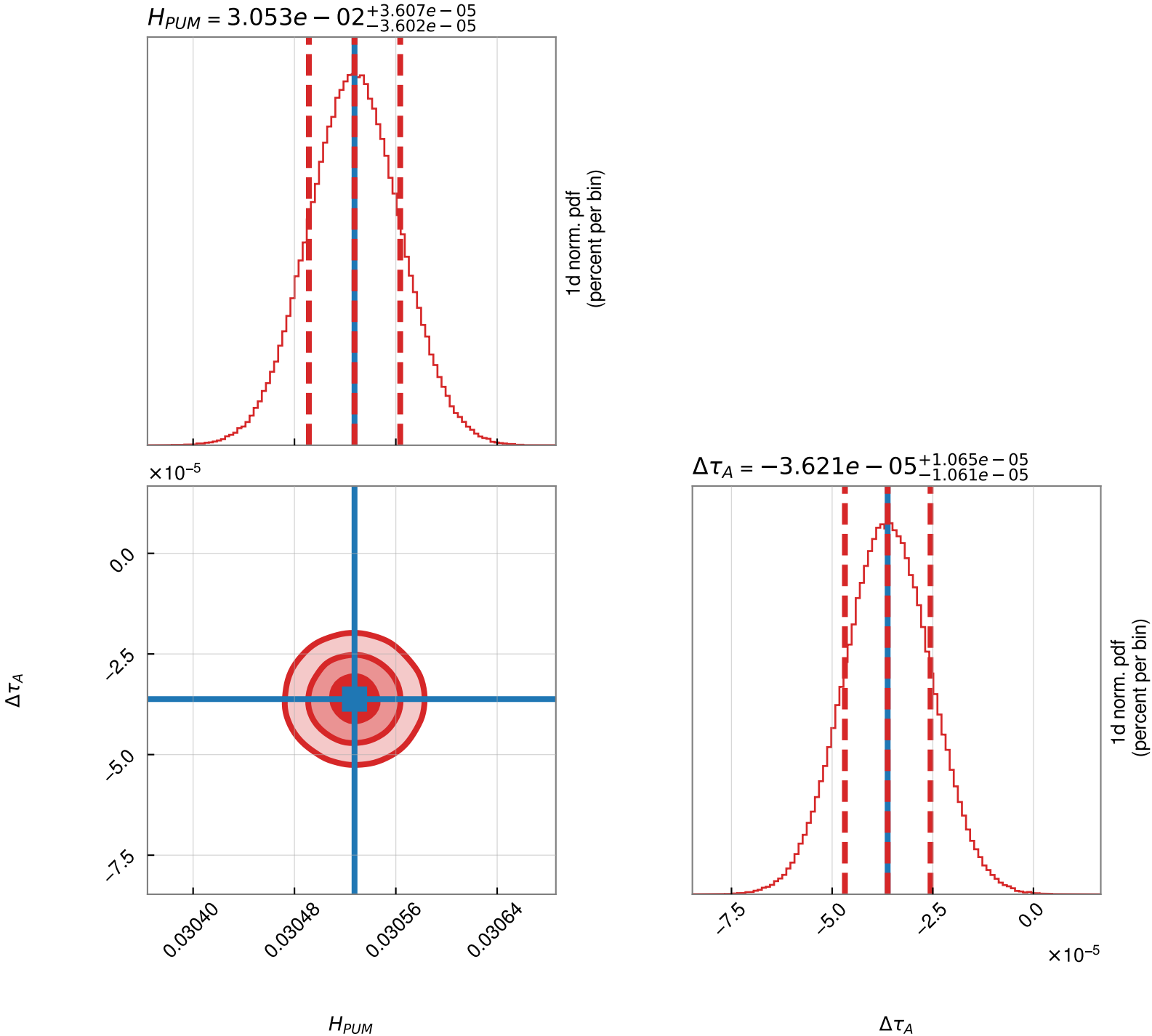
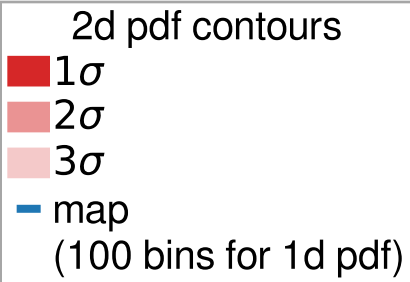
# H1SUSEX L2 actuation model MCMC summary

All fixed parameters drawn from /ligo/groups/cal/H1/reports/20251016T180834Z/pydarm\_H1.ini



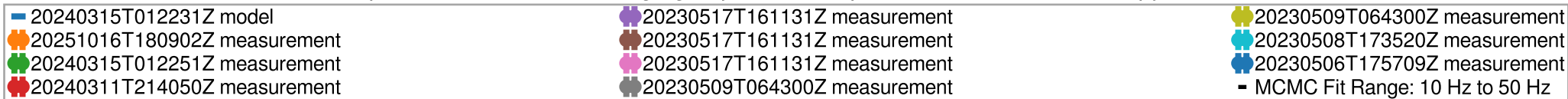
| Parameter                      | (value +/-)   value | +                   | -                   |
|--------------------------------|---------------------|---------------------|---------------------|
| Actuation Gain, Hap (N/A)      | 0.03053             | 3.607e-05 (0.12%)   | 3.602e-05 (0.12%)   |
| Residual time delay, tau_A (s) | -3.621e-05          | 1.065e-05 (-29.40%) | 1.061e-05 (-29.31%) |

20251016T180902Z EX L2 actuation  
MCMC corner plot

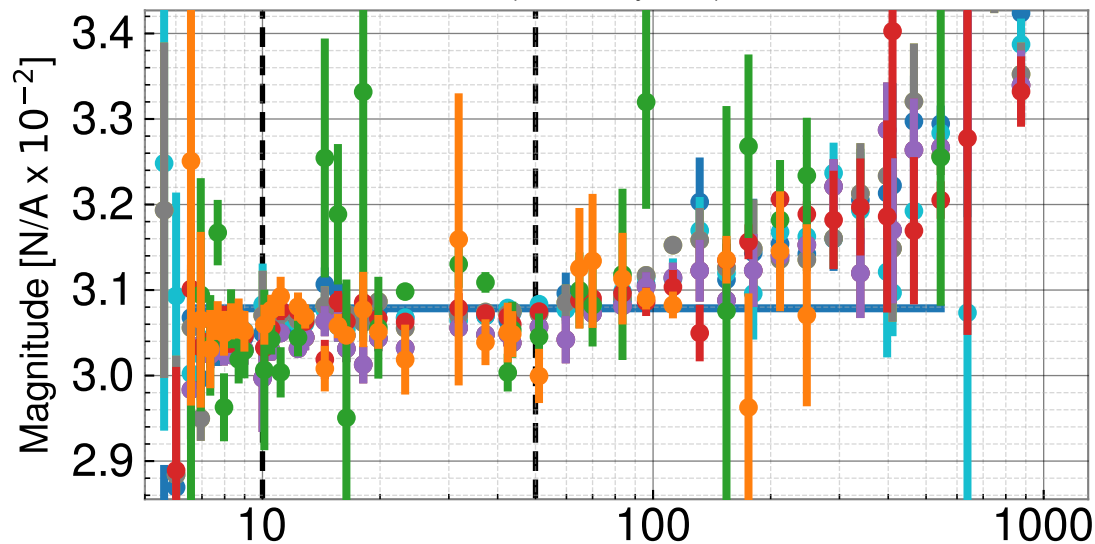


# H1SUSEX L2 actuation model history (last 9 measurements)

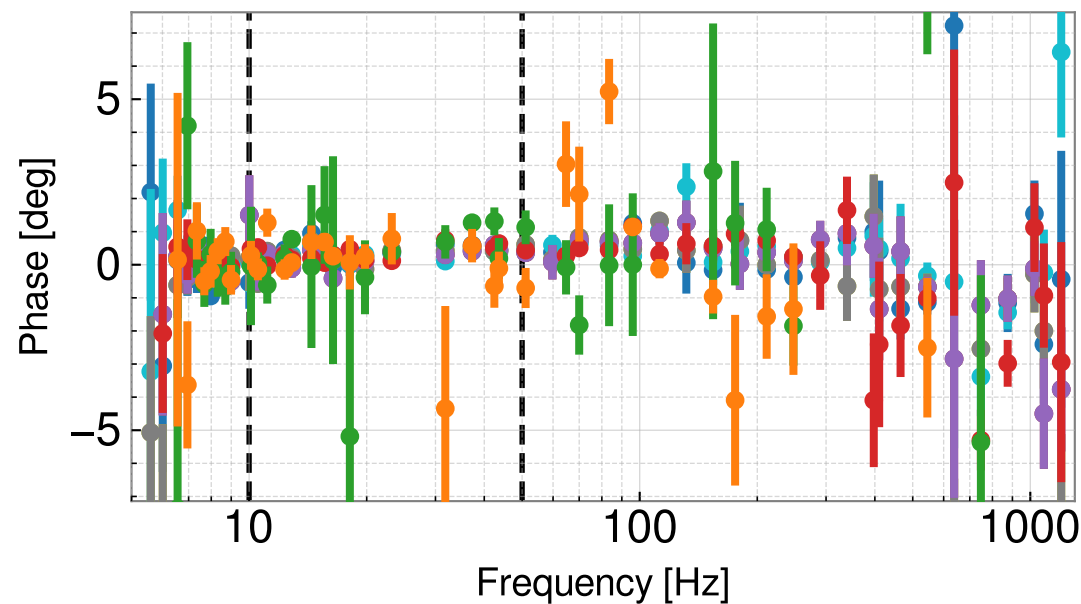
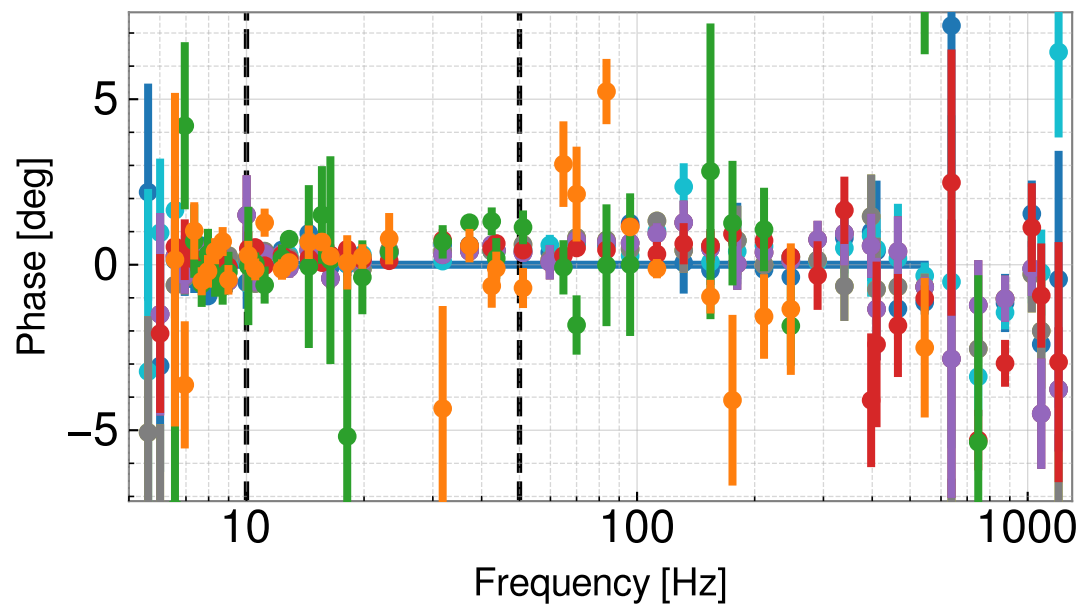
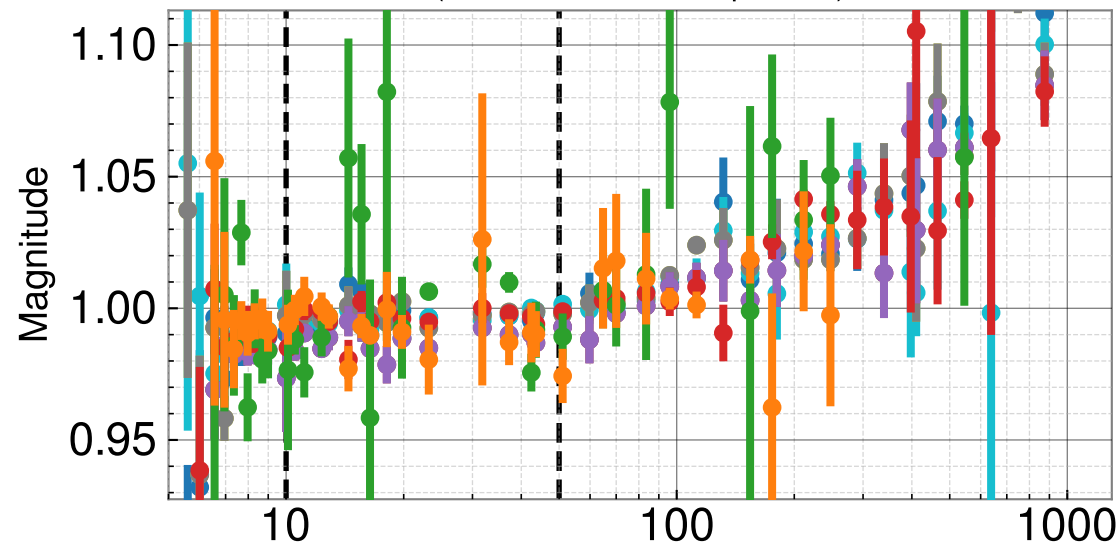
All fixed parameters drawn from /ligo/groups/cal/H1/reports/20251016T180834Z/pydarm\_H1.ini



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

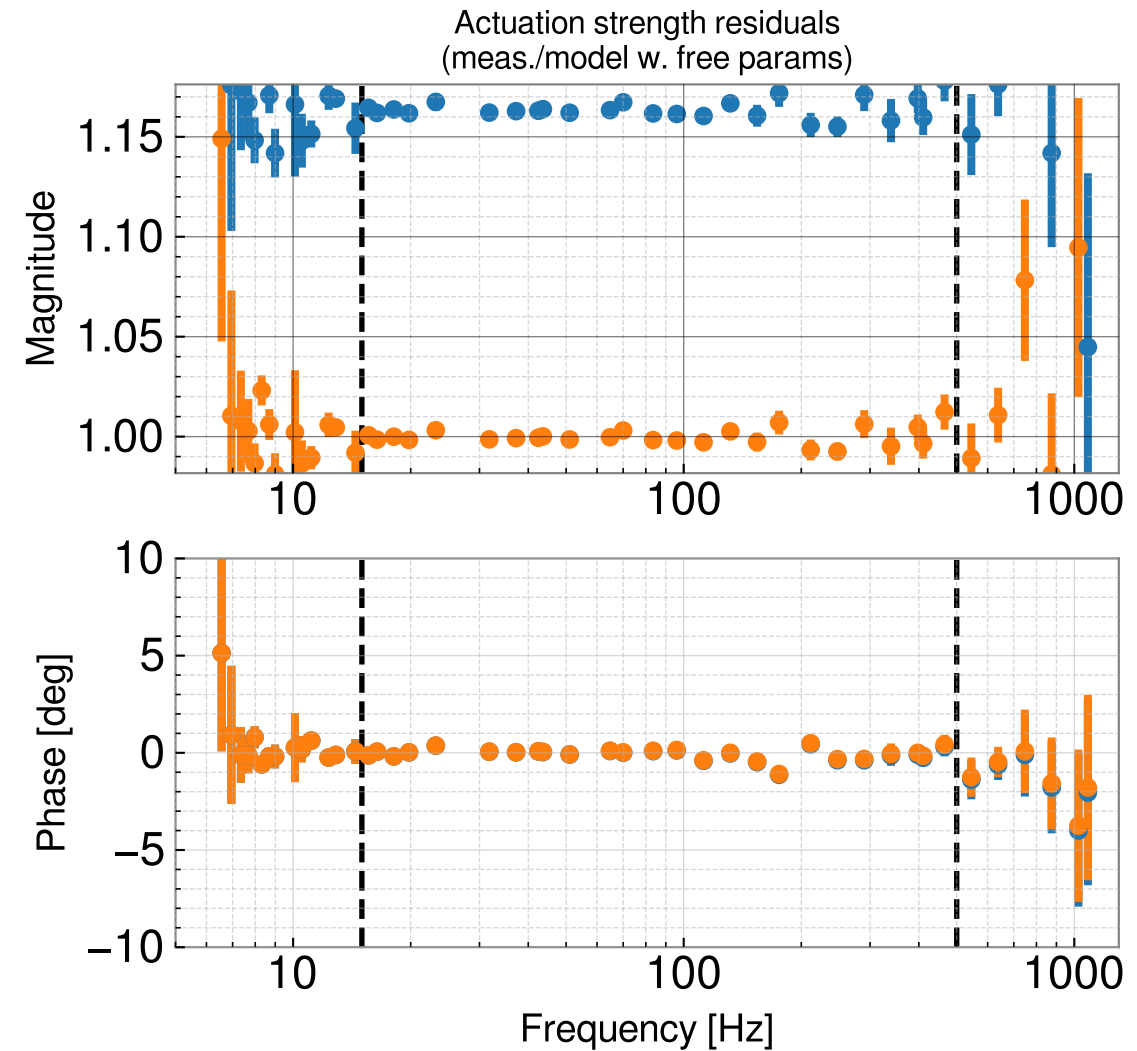
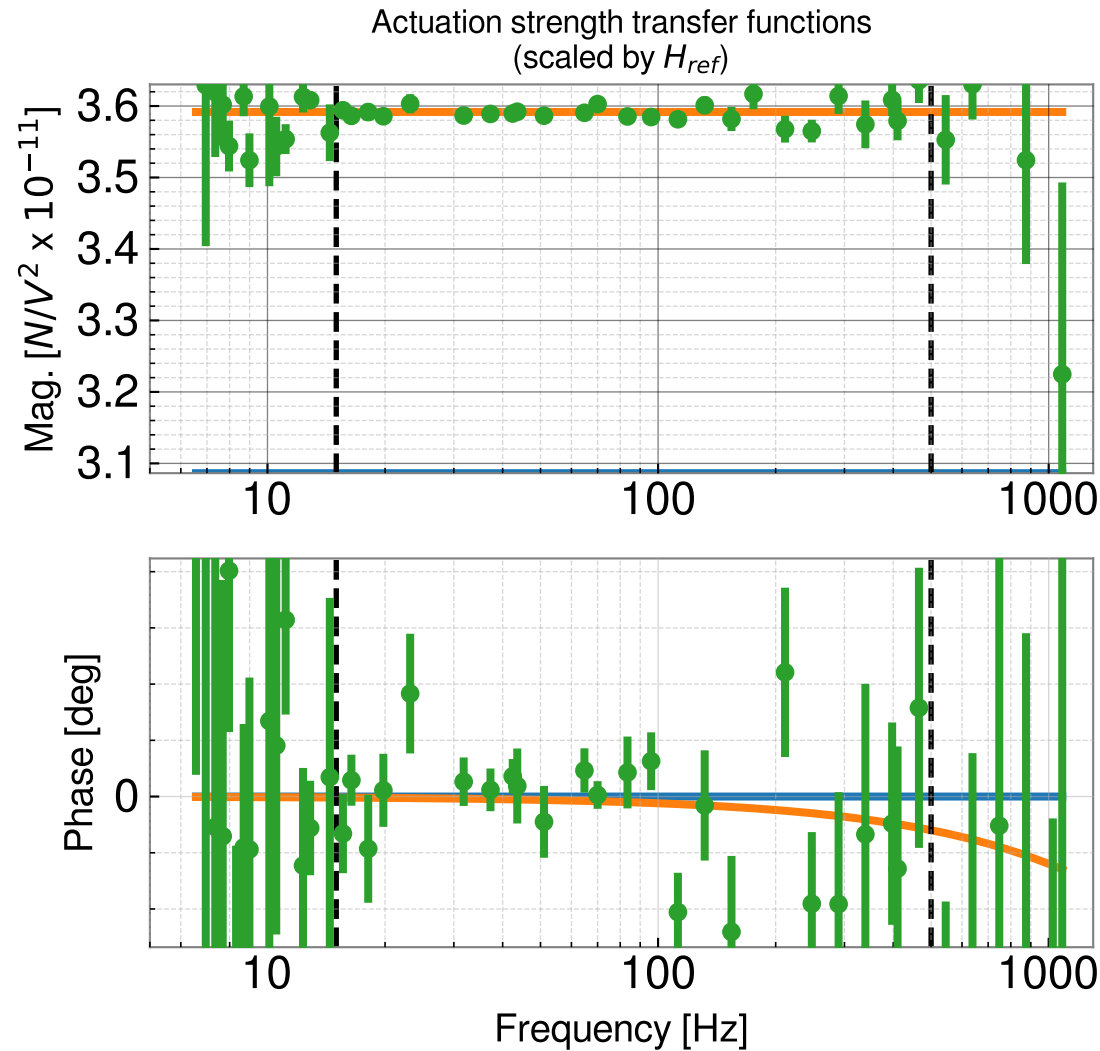


Actuation strength residuals  
(meas./model w. free params)



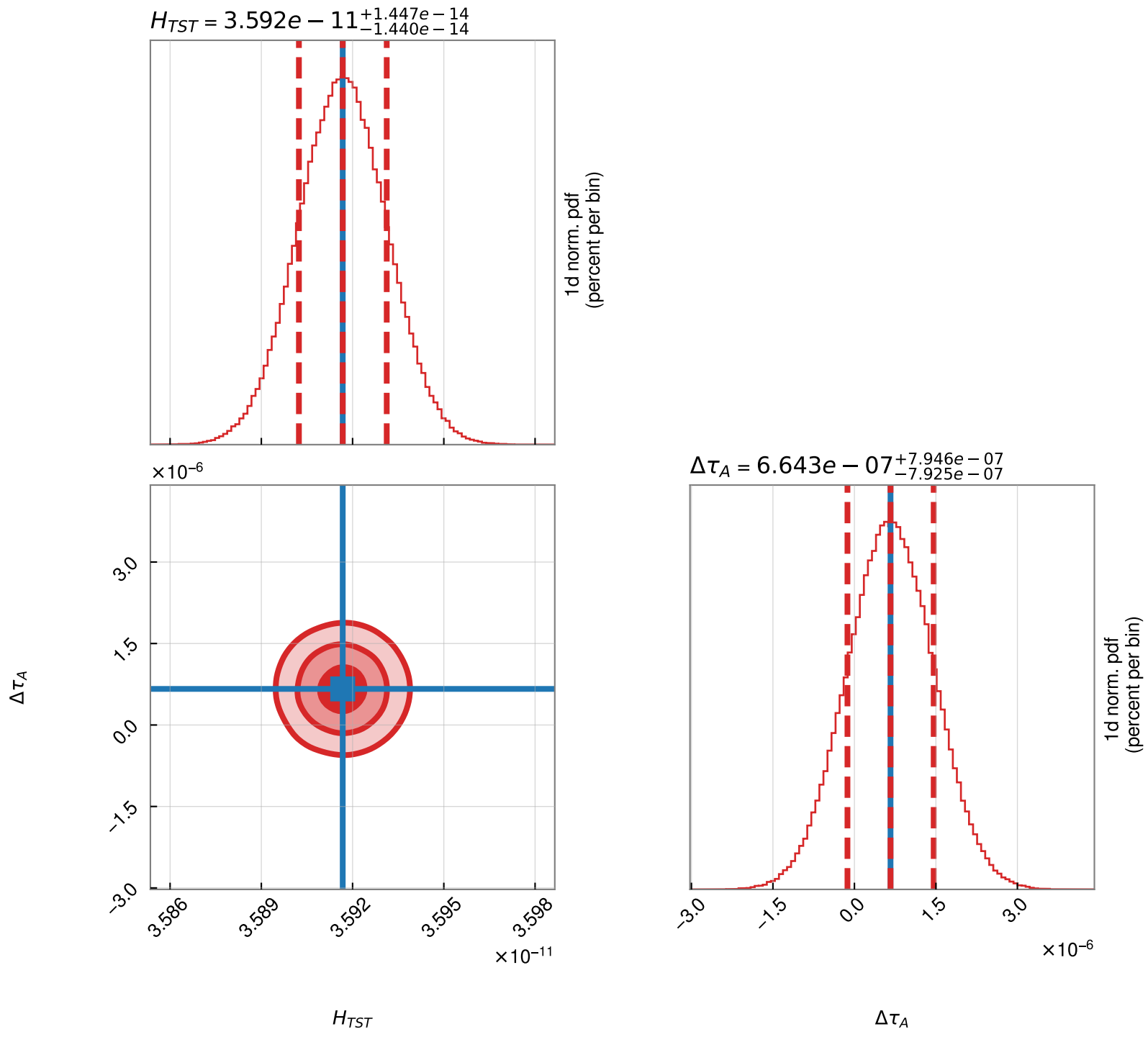
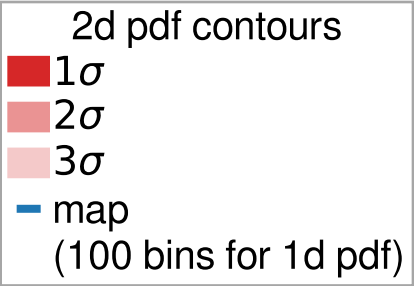
# H1SUSEX L3 actuation model MCMC summary

All fixed parameters drawn from /ligo/groups/cal/H1/reports/20251016T180834Z/pydarm\_H1.ini



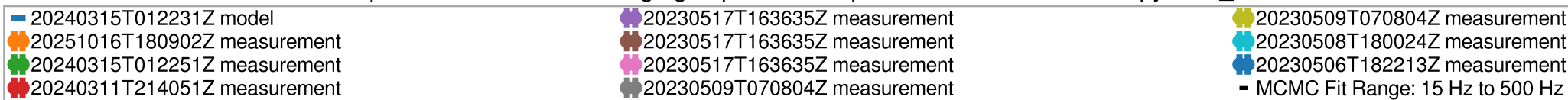
| Parameter                       | (value +/-)   value | +                   | -                   |
|---------------------------------|---------------------|---------------------|---------------------|
| Actuation Gain, Hat ( $N/V^2$ ) | 3.592e-11           | 1.447e-14 (0.04%)   | 1.44e-14 (0.04%)    |
| Residual time delay, tau_A (s)  | 6.643e-07           | 7.946e-07 (119.61%) | 7.925e-07 (119.29%) |

20251016T180902Z EX L3 actuation  
MCMC corner plot

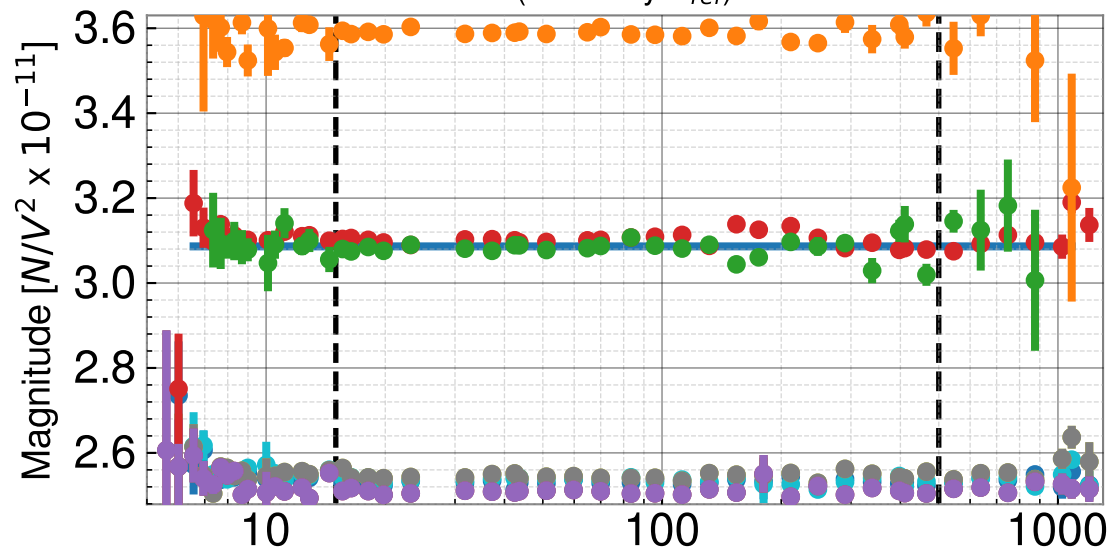


# H1SUSEX L3 actuation model history (last 9 measurements)

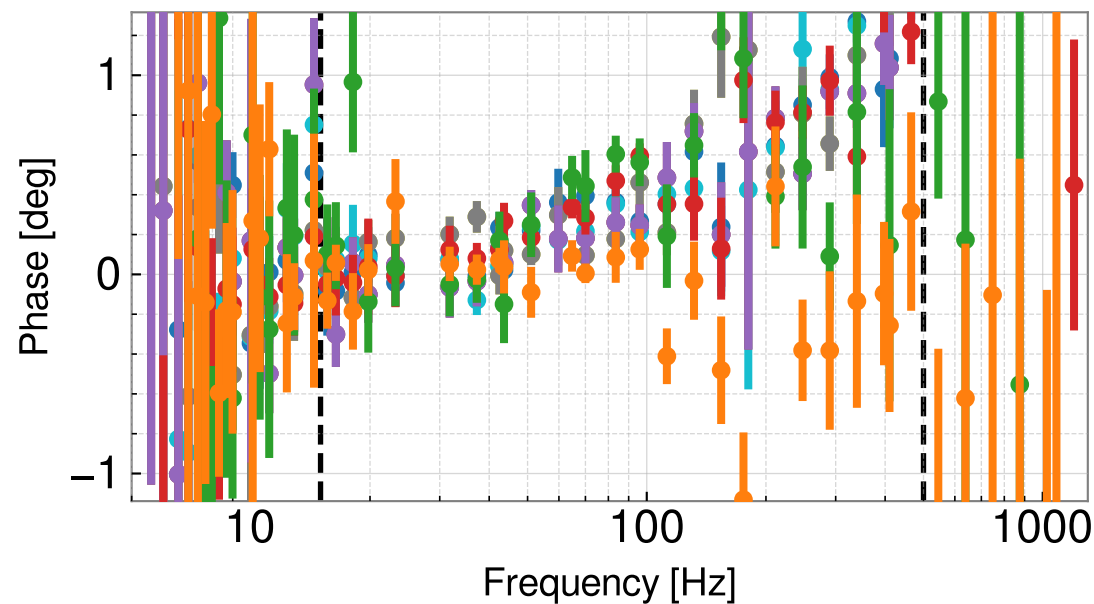
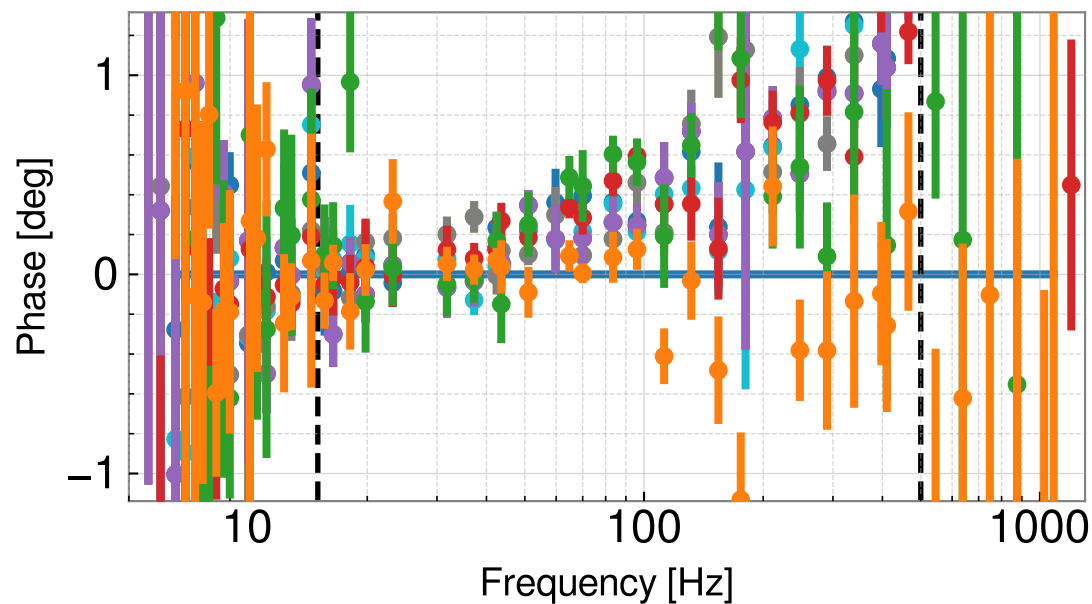
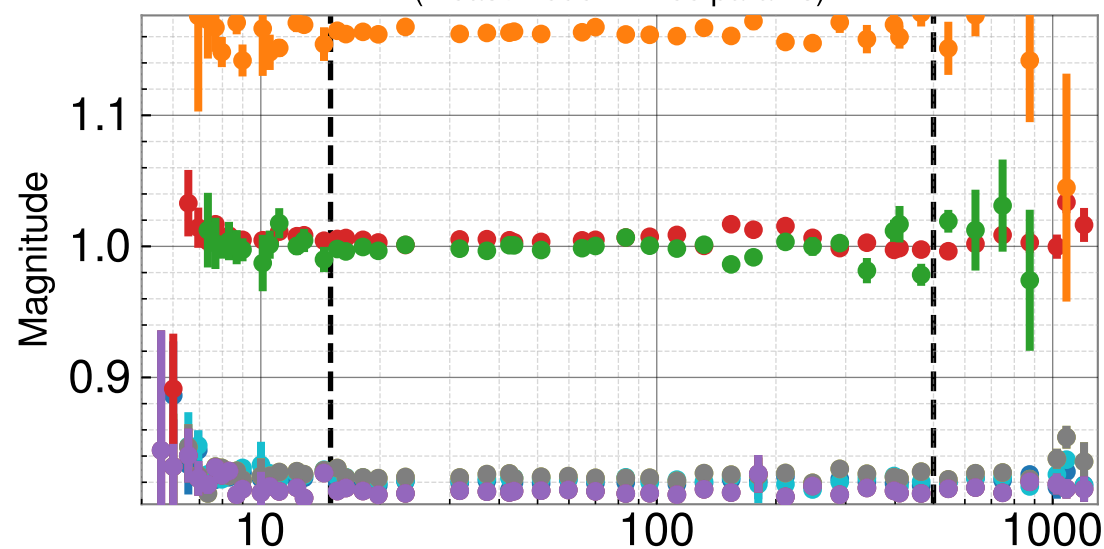
All fixed parameters drawn from /ligo/groups/cal/H1/reports/20251016T180834Z/pydarm\_H1.ini



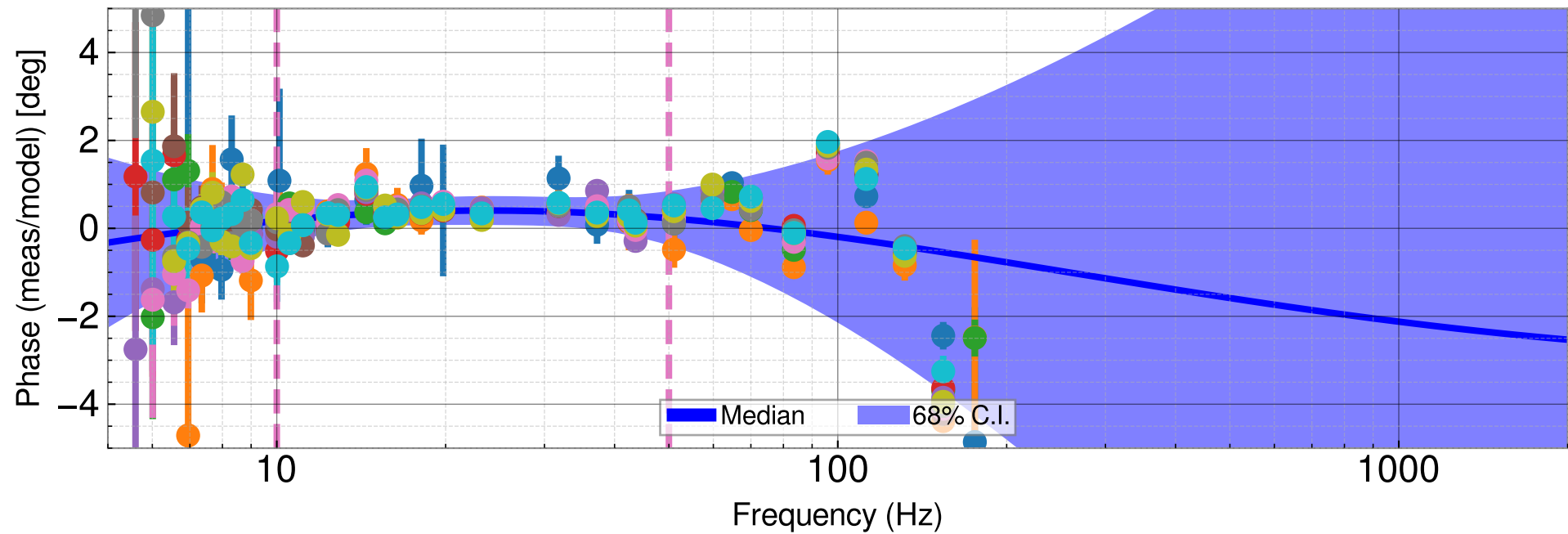
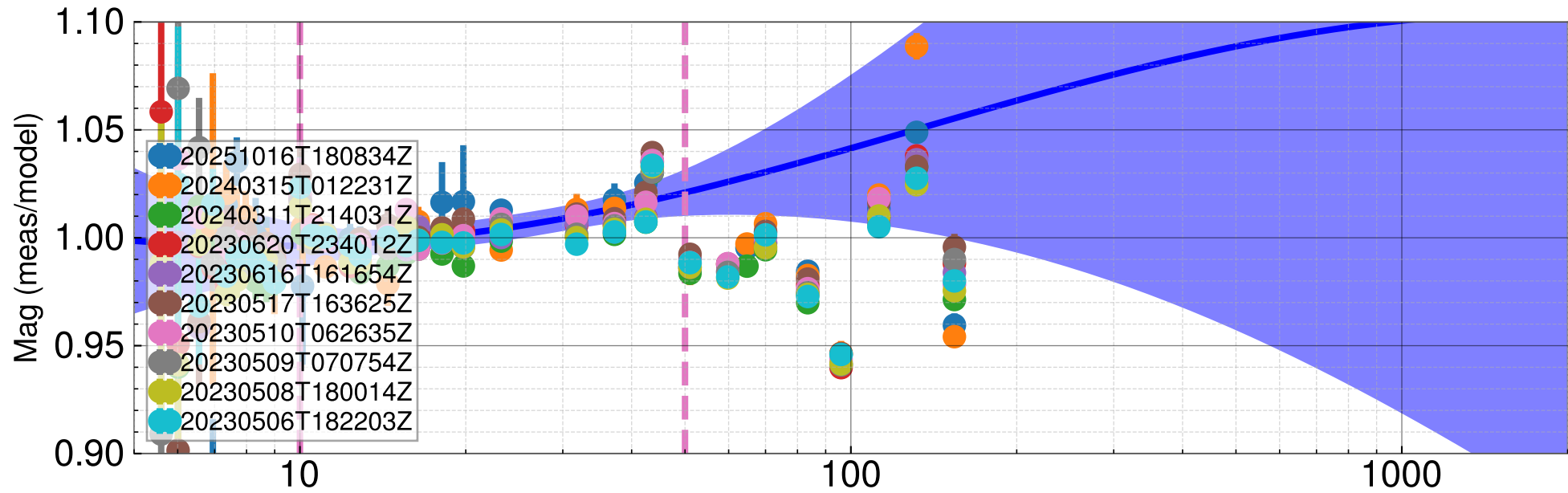
Actuation strength transfer functions  
(scaled by  $H_{ref}$ )



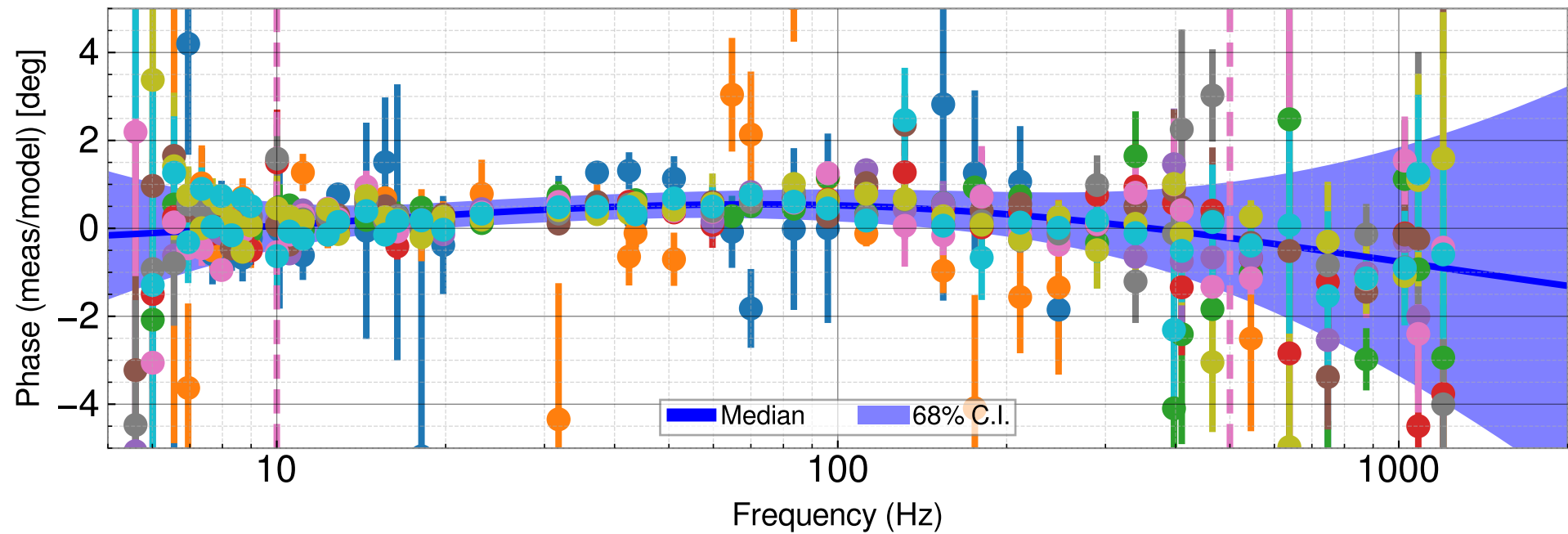
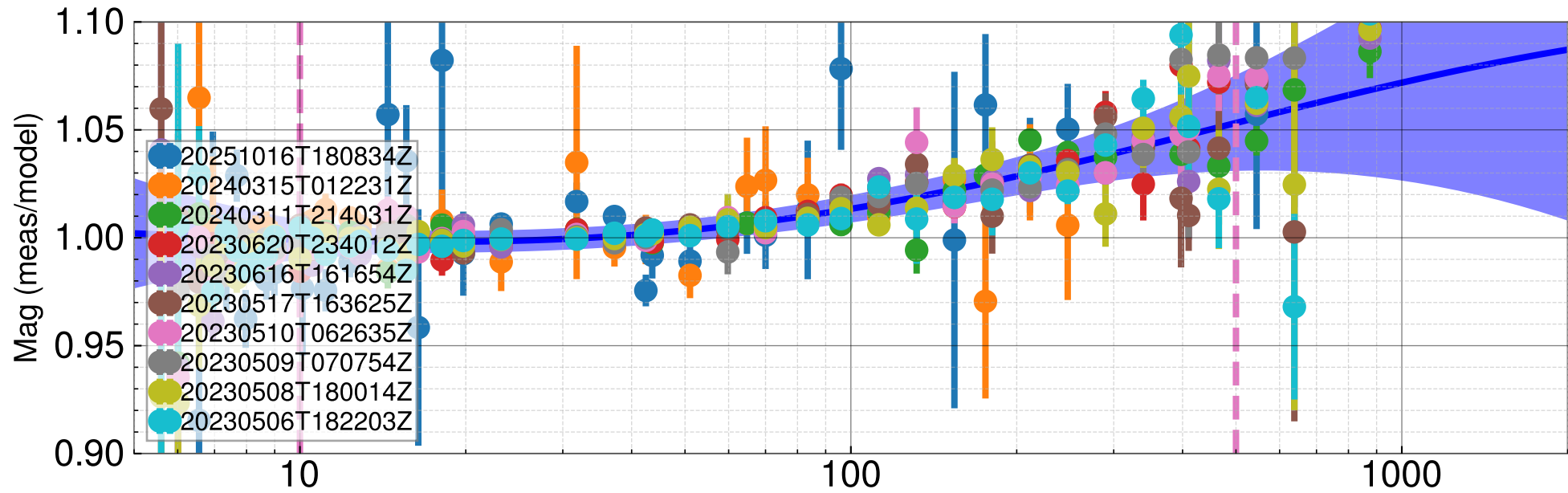
Actuation strength residuals  
(meas./model w. free params)



# Actuation/L1/EX GPR



# Actuation/L2/EX GPR



# Actuation/L3/EX GPR

