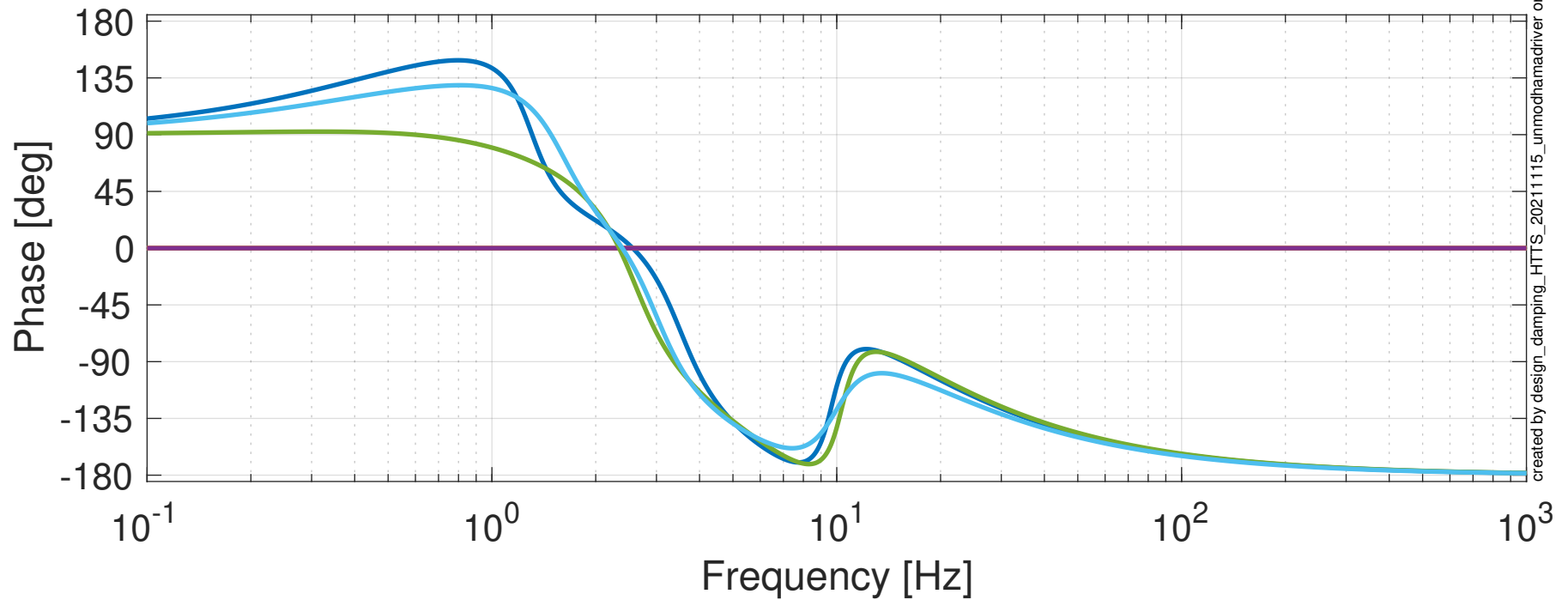
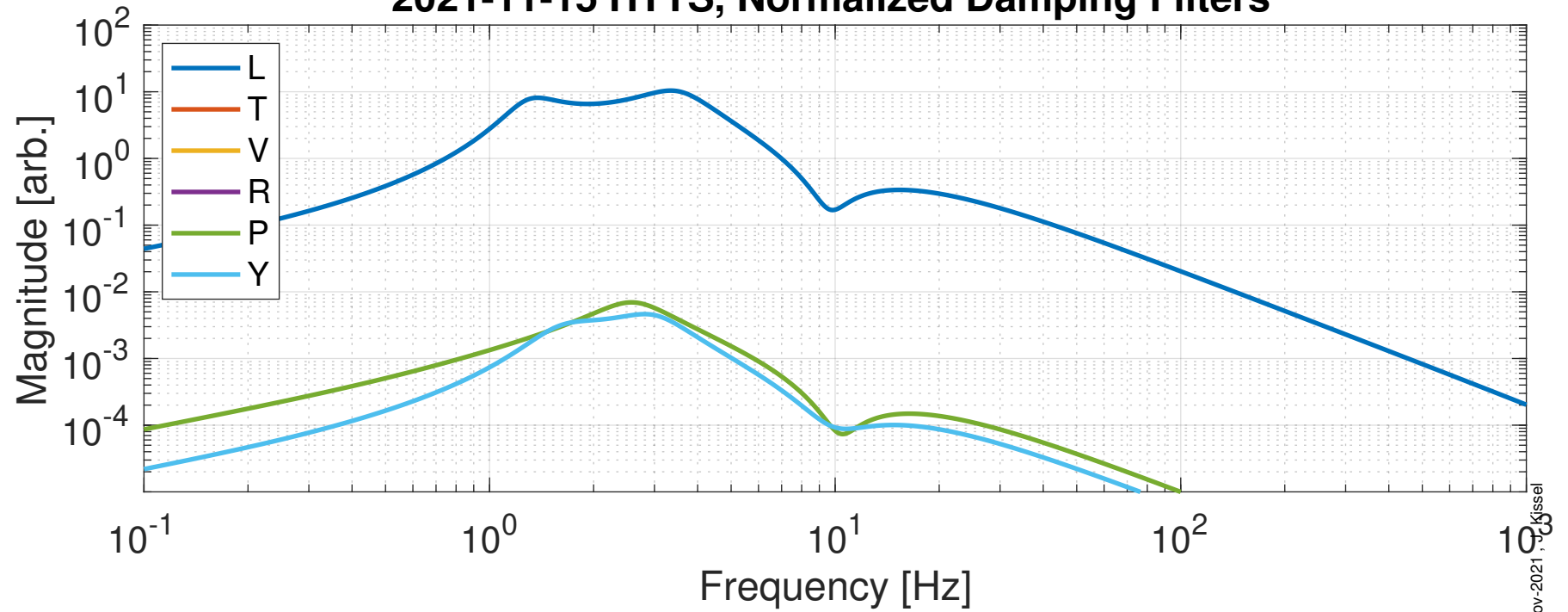
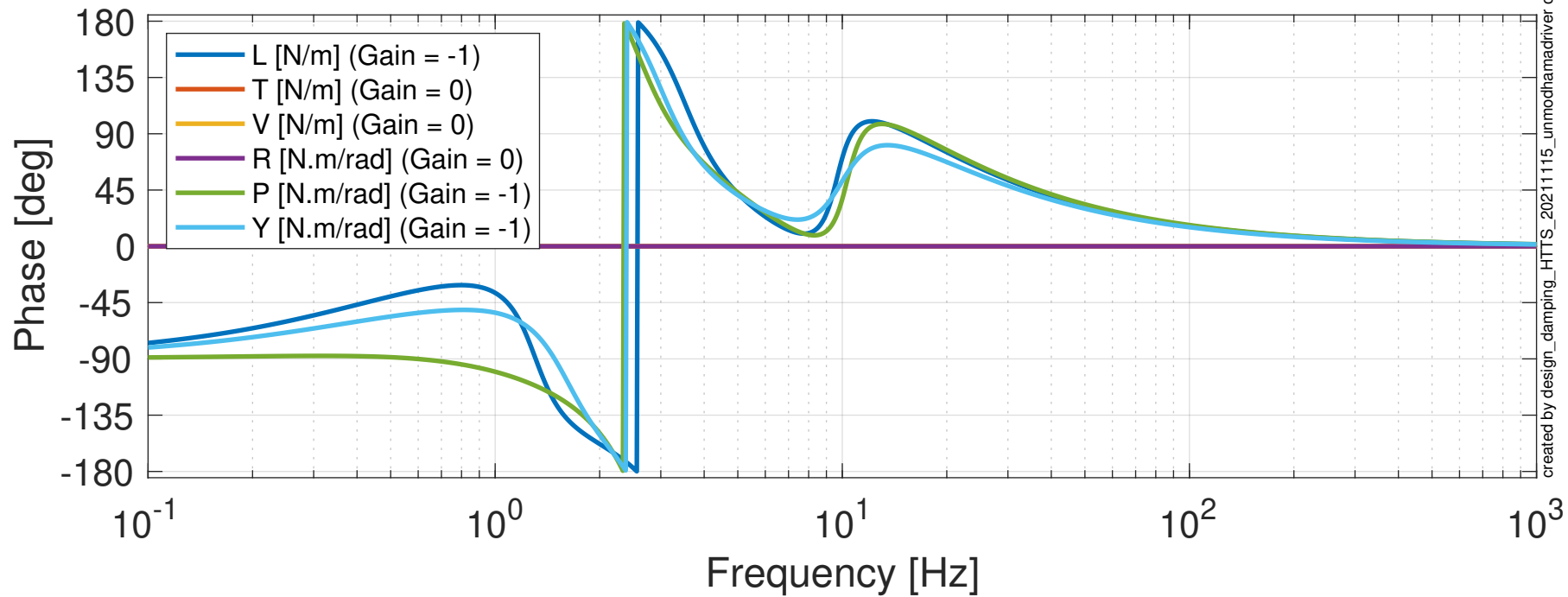
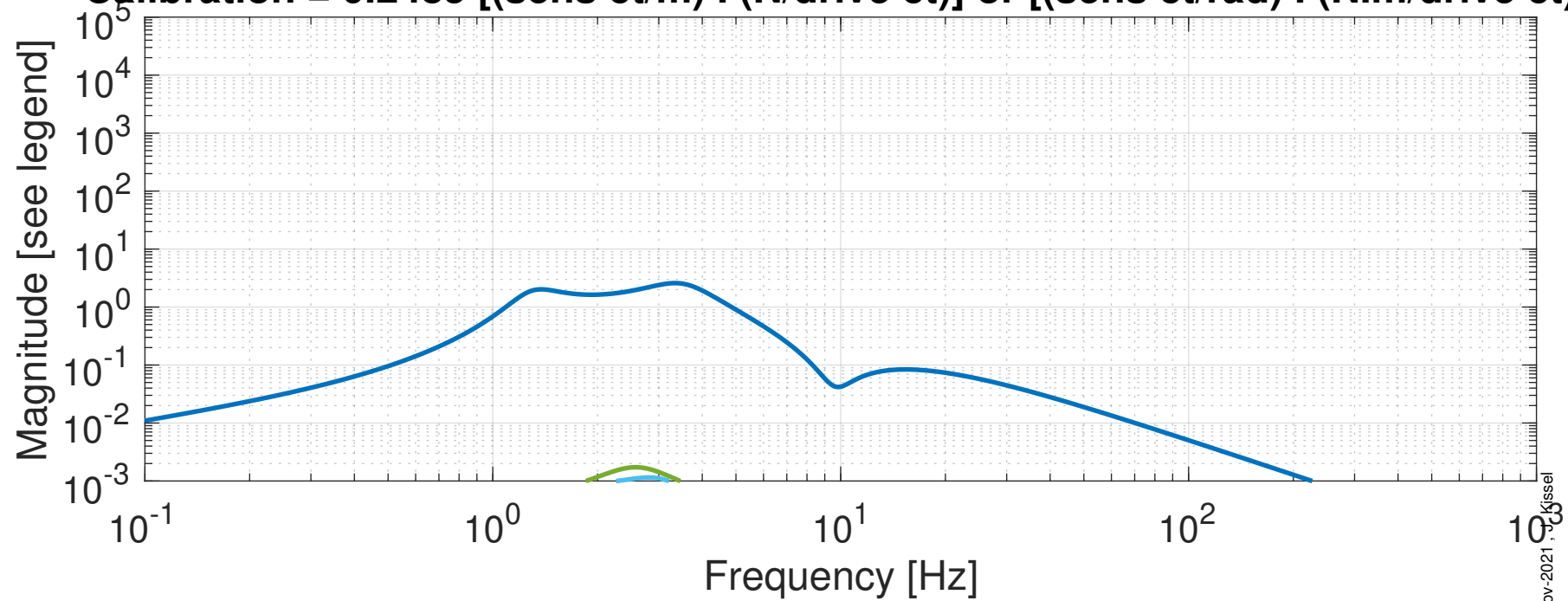


2021-11-15 HTTS, Normalized Damping Filters



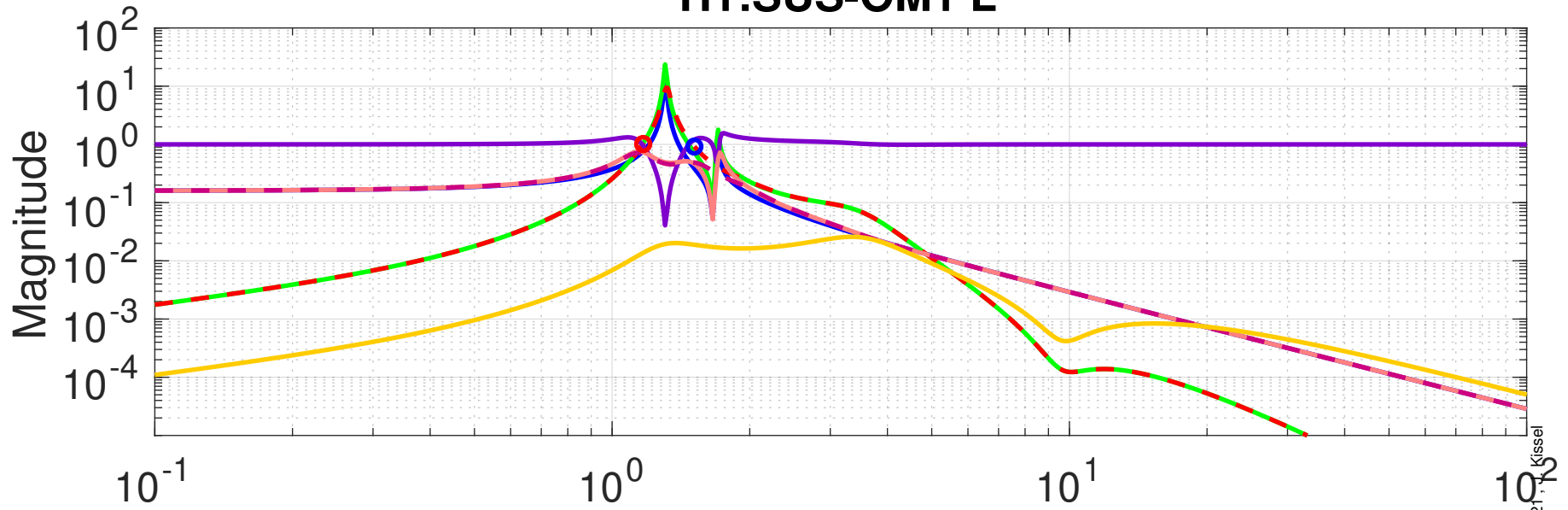
2021-11-15 HTTS, Calibrated Damping Filters

Calibration = 0.2485 [(sens ct/m) . (N/drive ct)] or [(sens ct/rad) . (N.m/drive ct)]

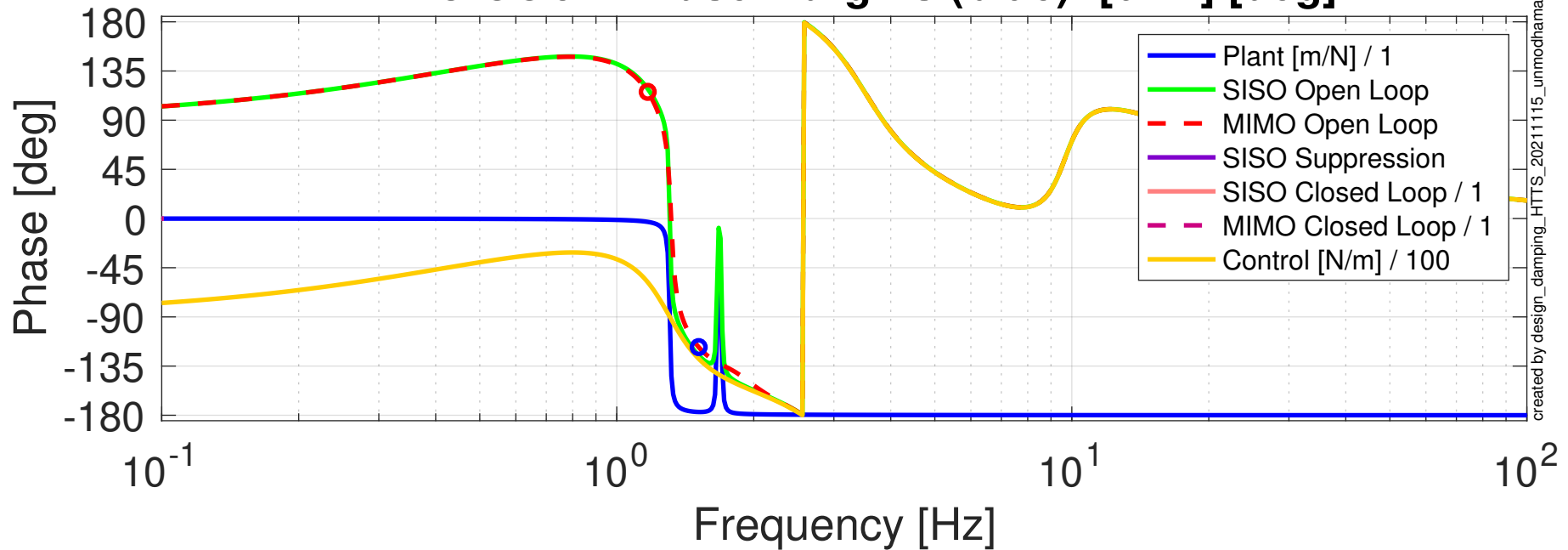


Damping Loop Design

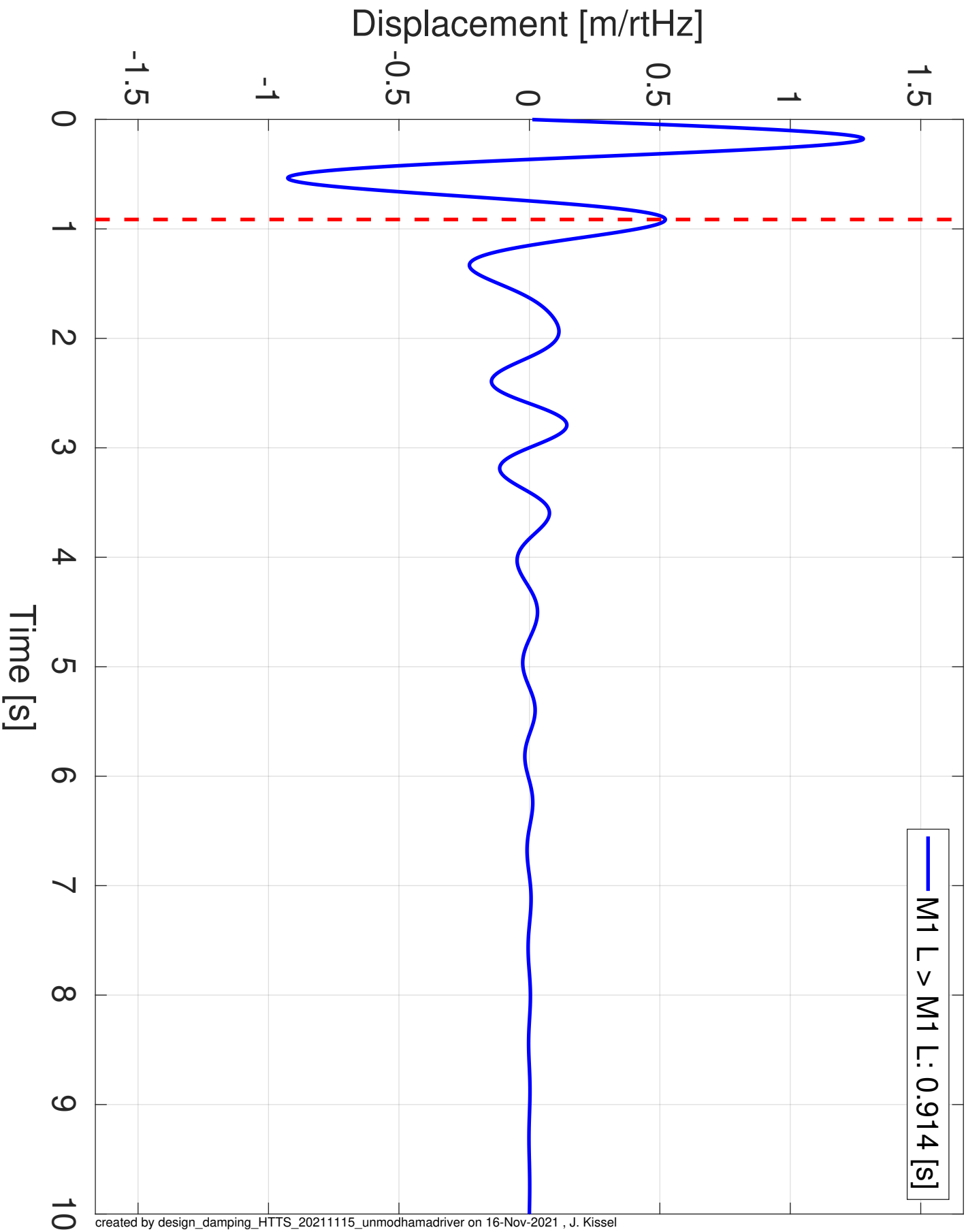
H1:SUS-OM1 L



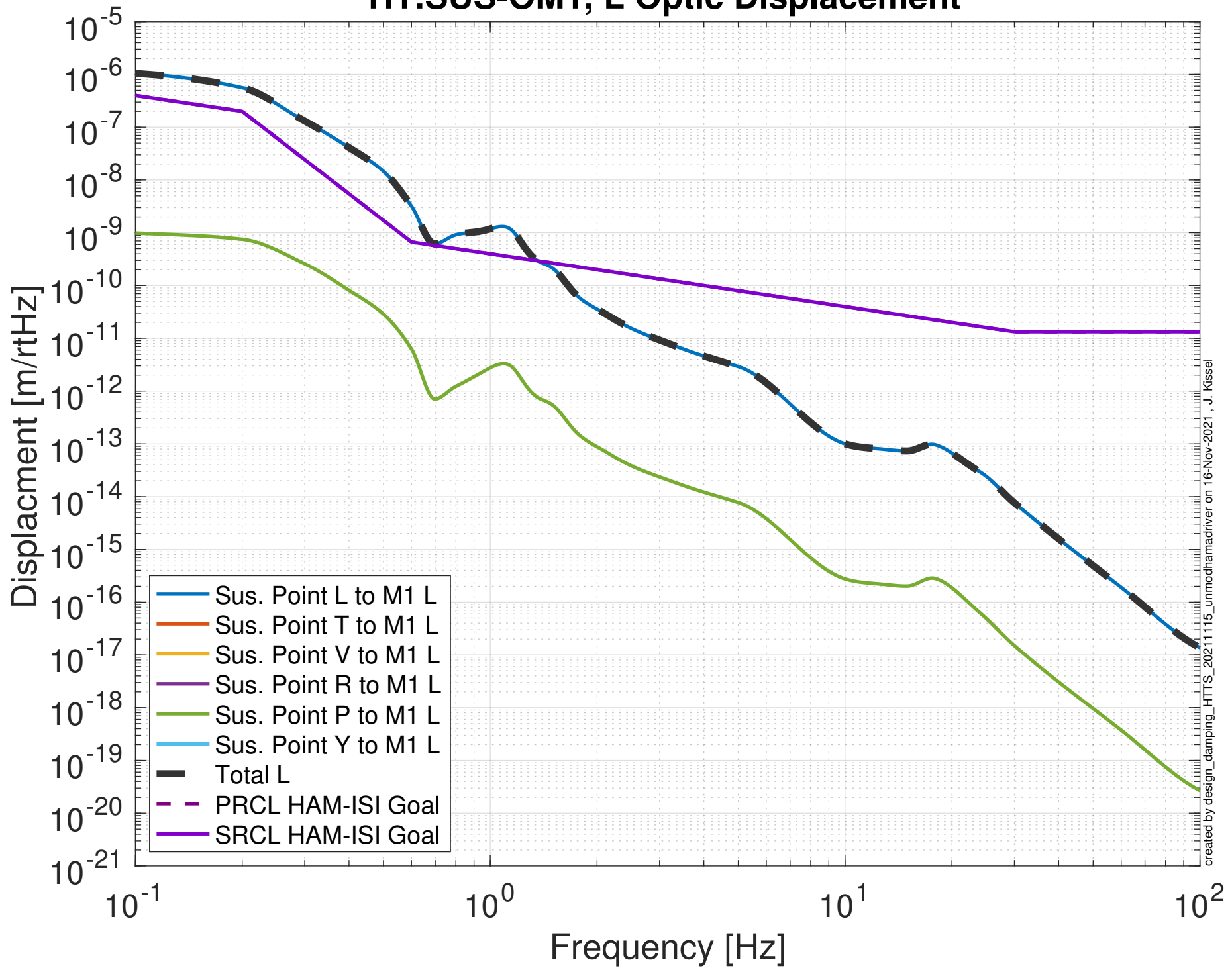
MIMO LUGF Phase Margins (red): [64.1] [deg]
MIMO UUGF Phase Margins (blue): [62.4] [deg]



Damped Impulse Response H1:SUS-OM1 L

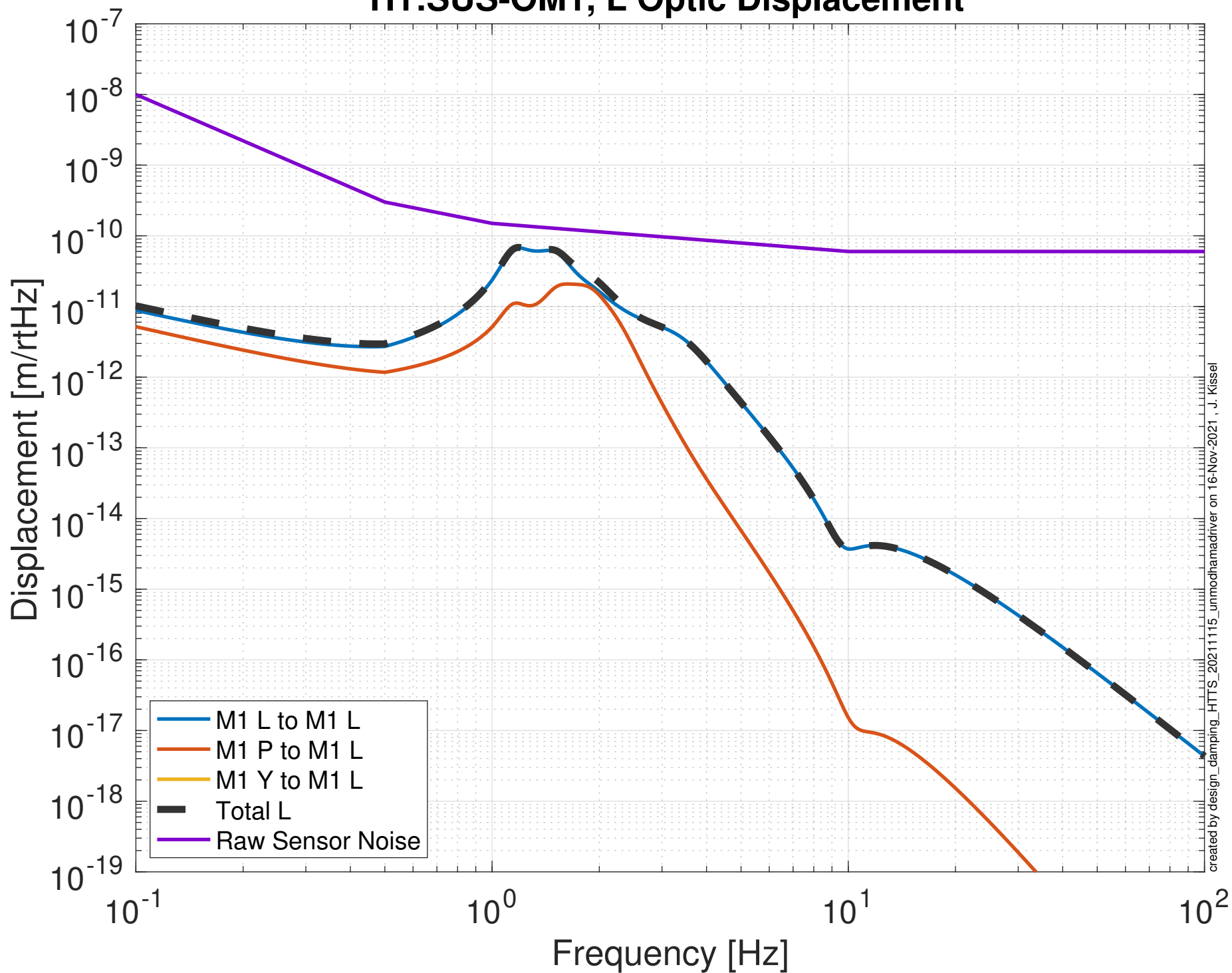


Projected Sus. Point > Optic Seismic Noise Budget H1:SUS-OM1, L Optic Displacement

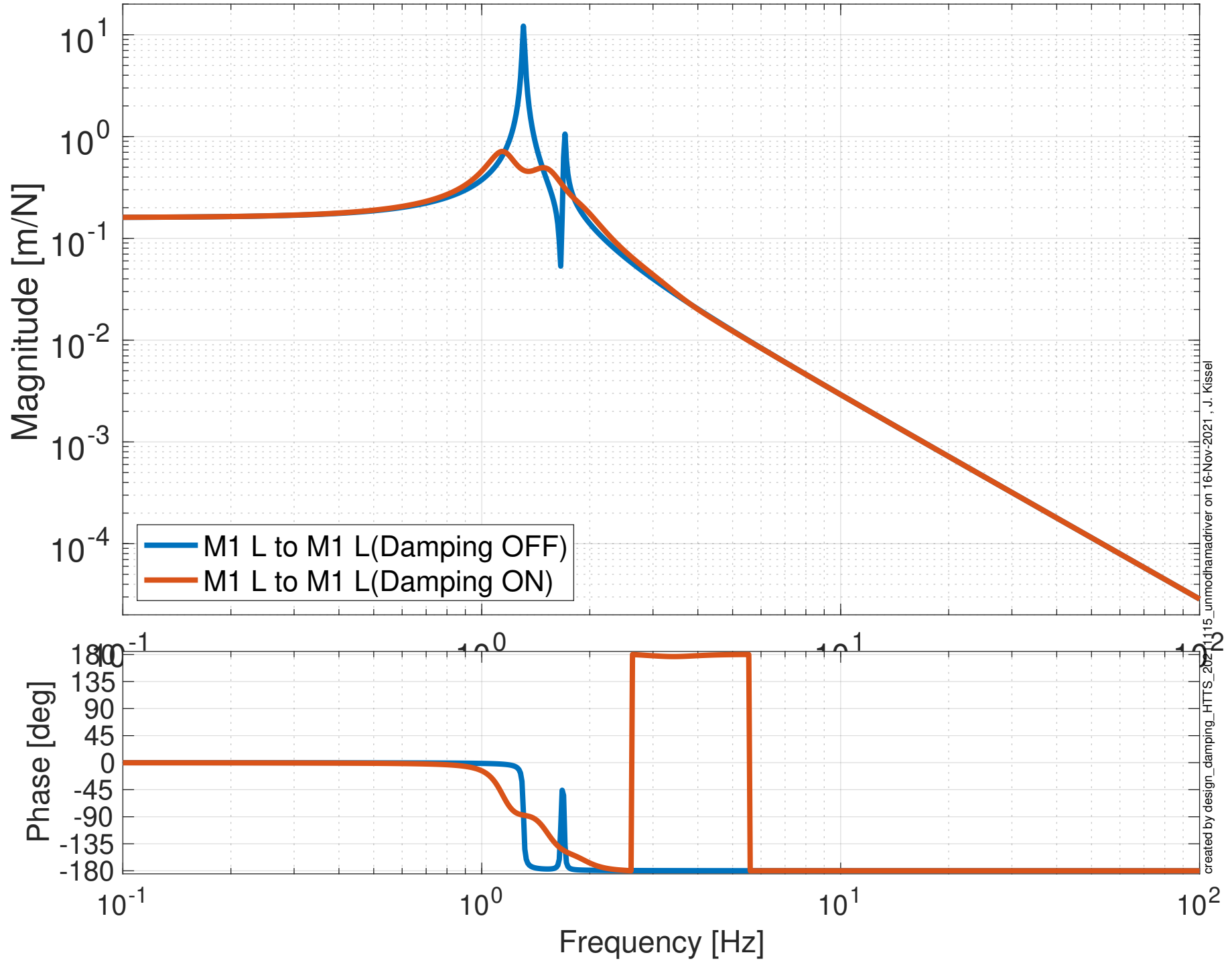


created by design_damping_HTT5_20211115_unmodhamdriver on 16-Nov-2021, J. Kissel

Projected Top Mass Sensor > Optic Noise Budget H1:SUS-OM1, L Optic Displacement

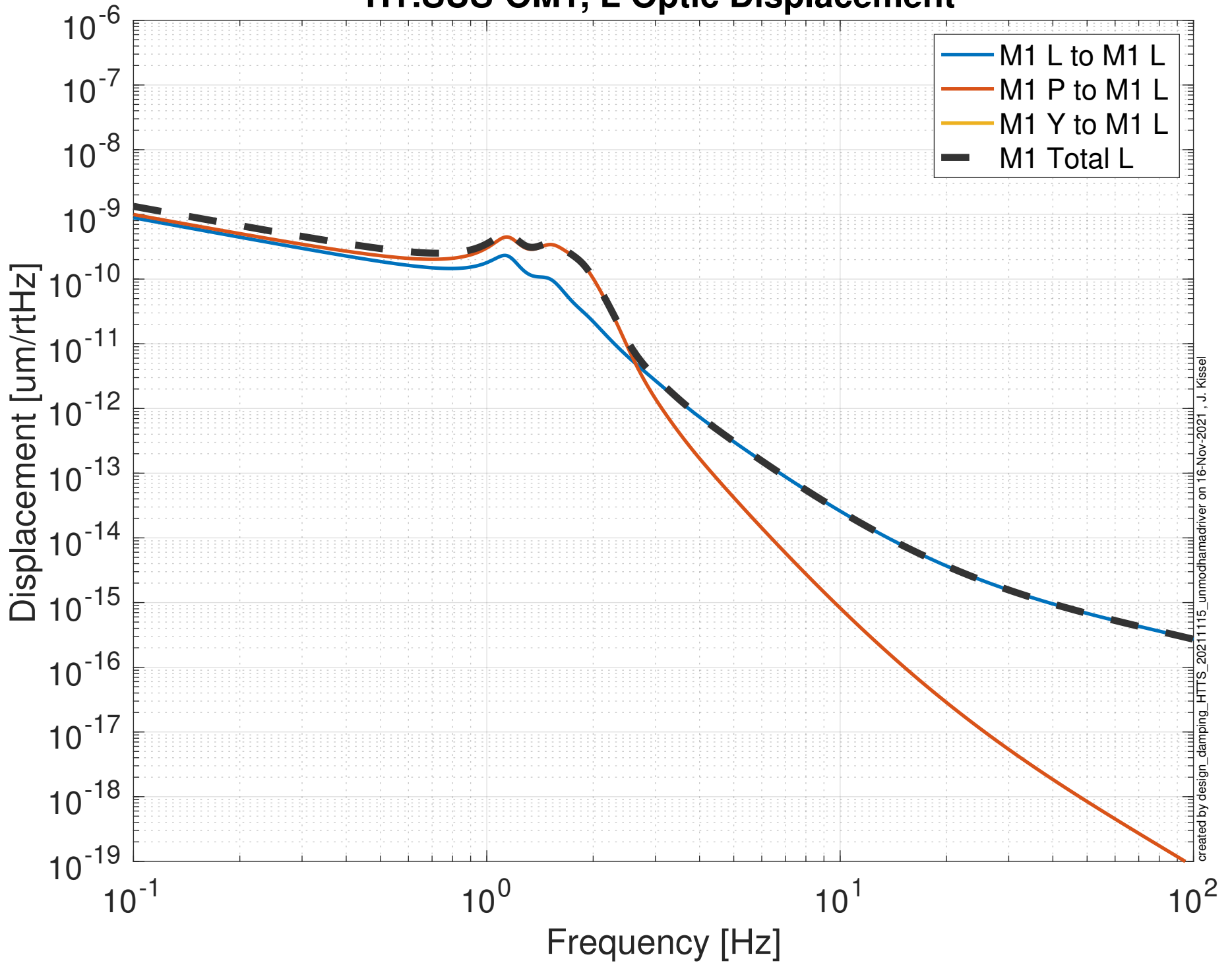


Global Control Transfer Functions to Optic H1:SUS-OM1, L



created by design_damping_HTTs_2021_11_15_unmodhadriv on 16-Nov-2021, J. Kissel

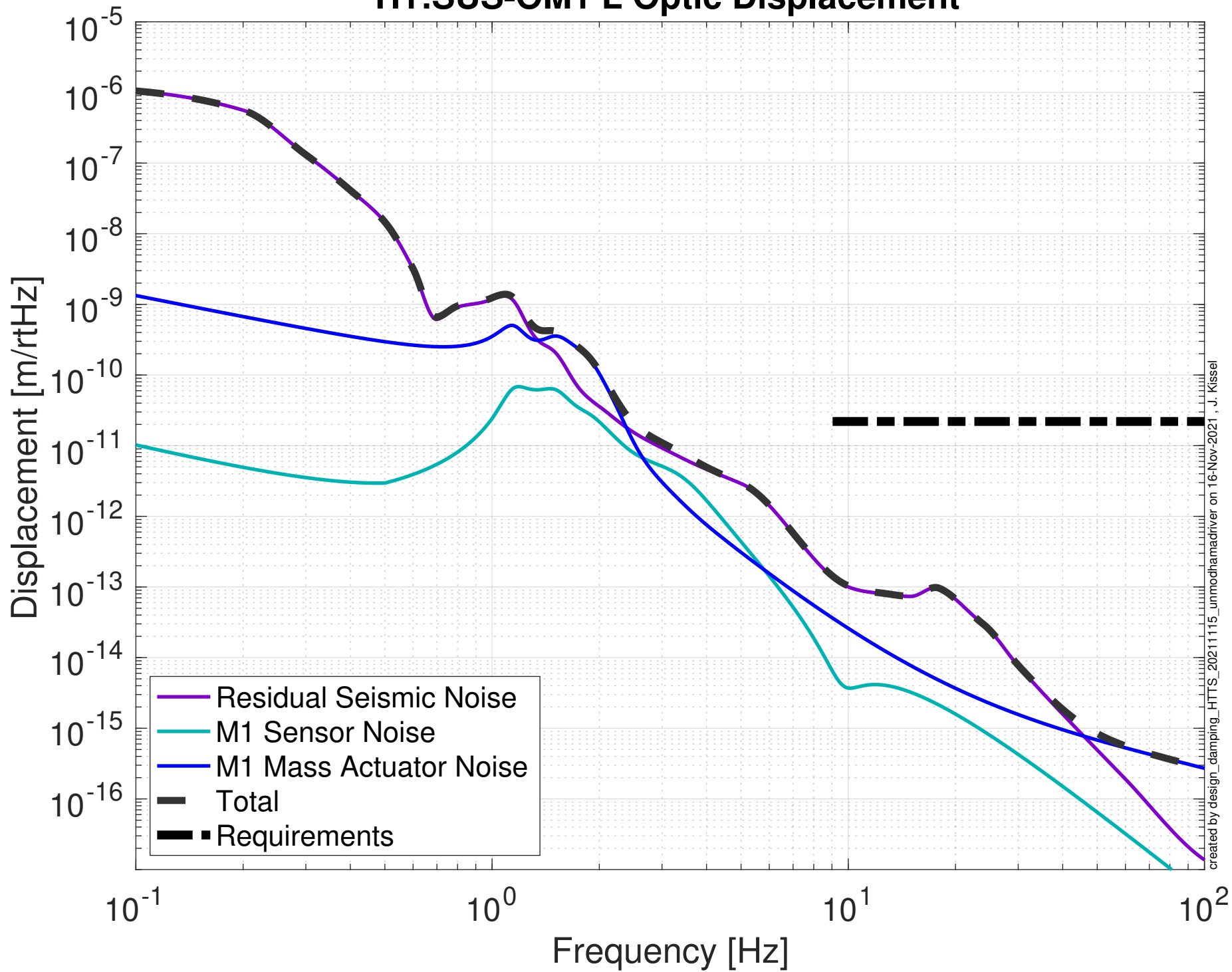
Projected M1 Mass Actuator > Optic Noise Budget H1:SUS-OM1, L Optic Displacement



created by design_damping_HTTs_20211115_unmodhamadriver on 16-Nov-2021, J. Kissel

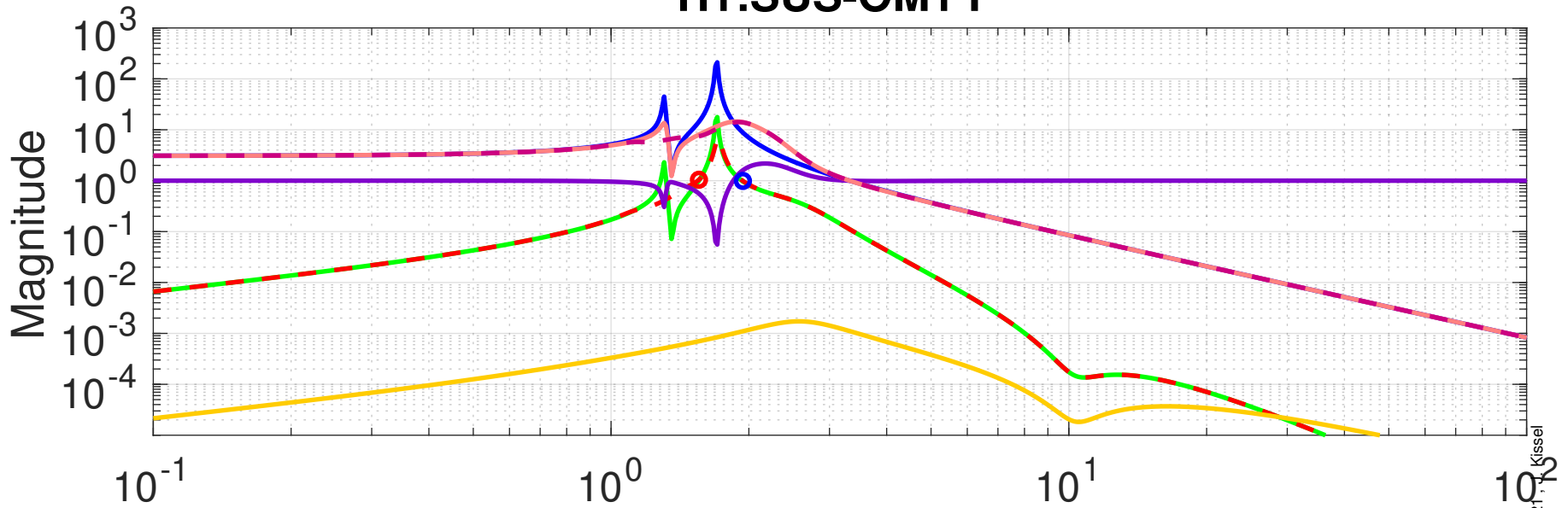
Damping Loop Performance

H1:SUS-OM1 L Optic Displacement

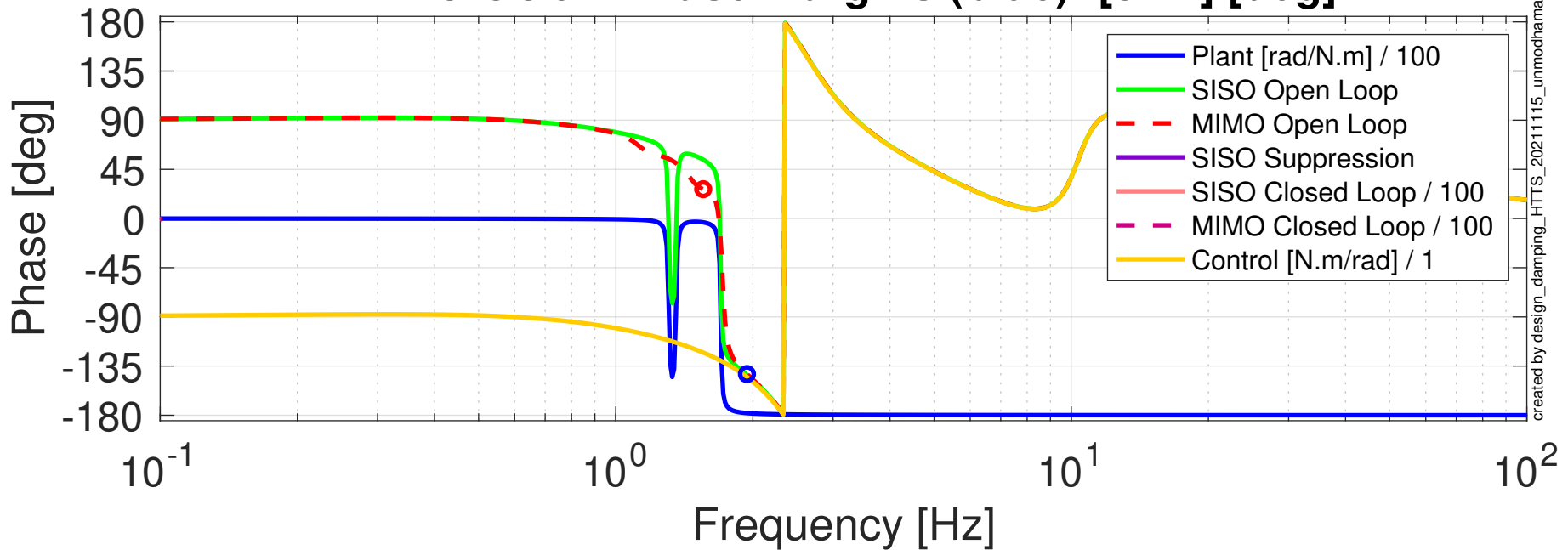


Damping Loop Design

H1:SUS-OM1 P

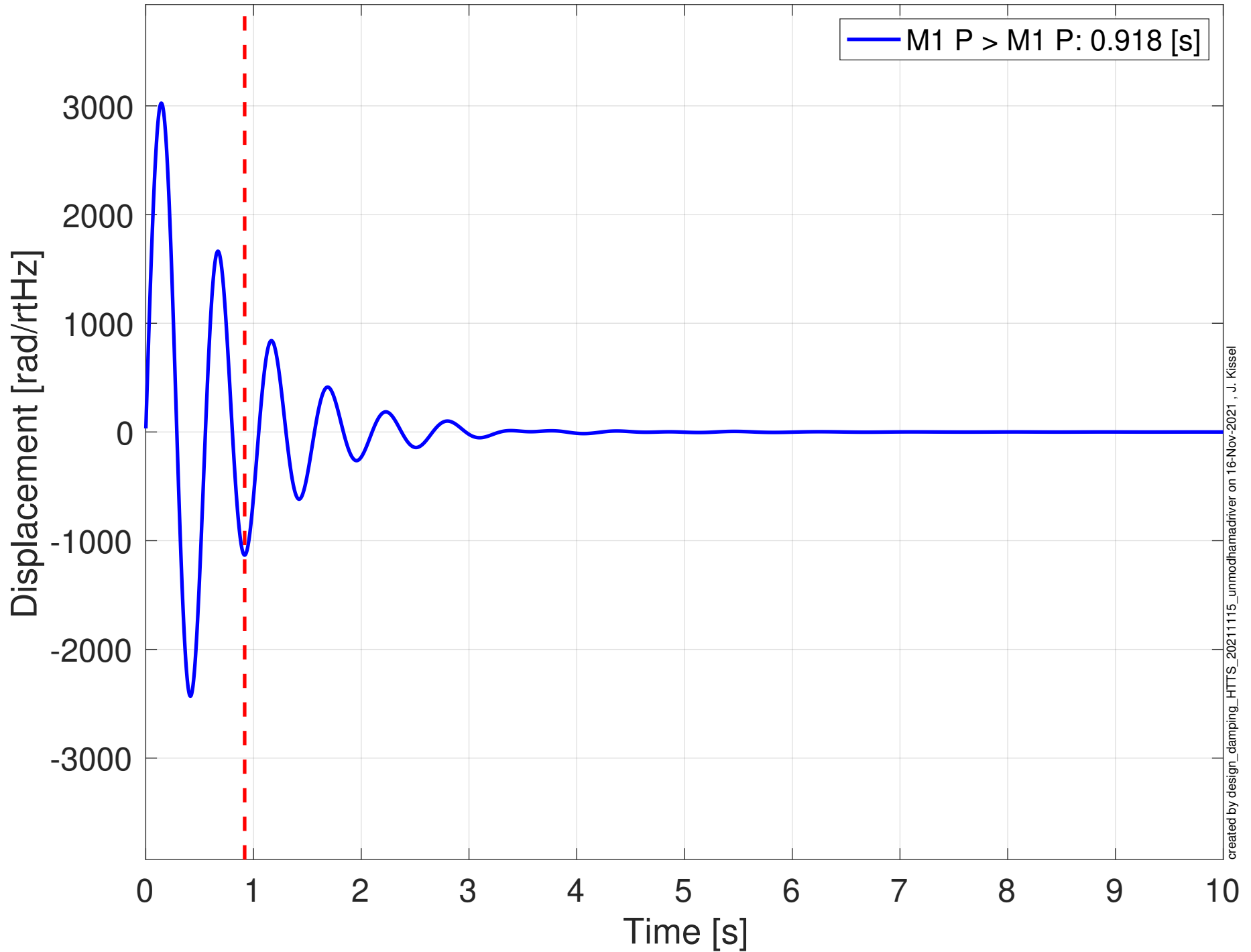


MIMO LUGF Phase Margins (red): [153] [deg]
MIMO UUGF Phase Margins (blue): [37.7] [deg]

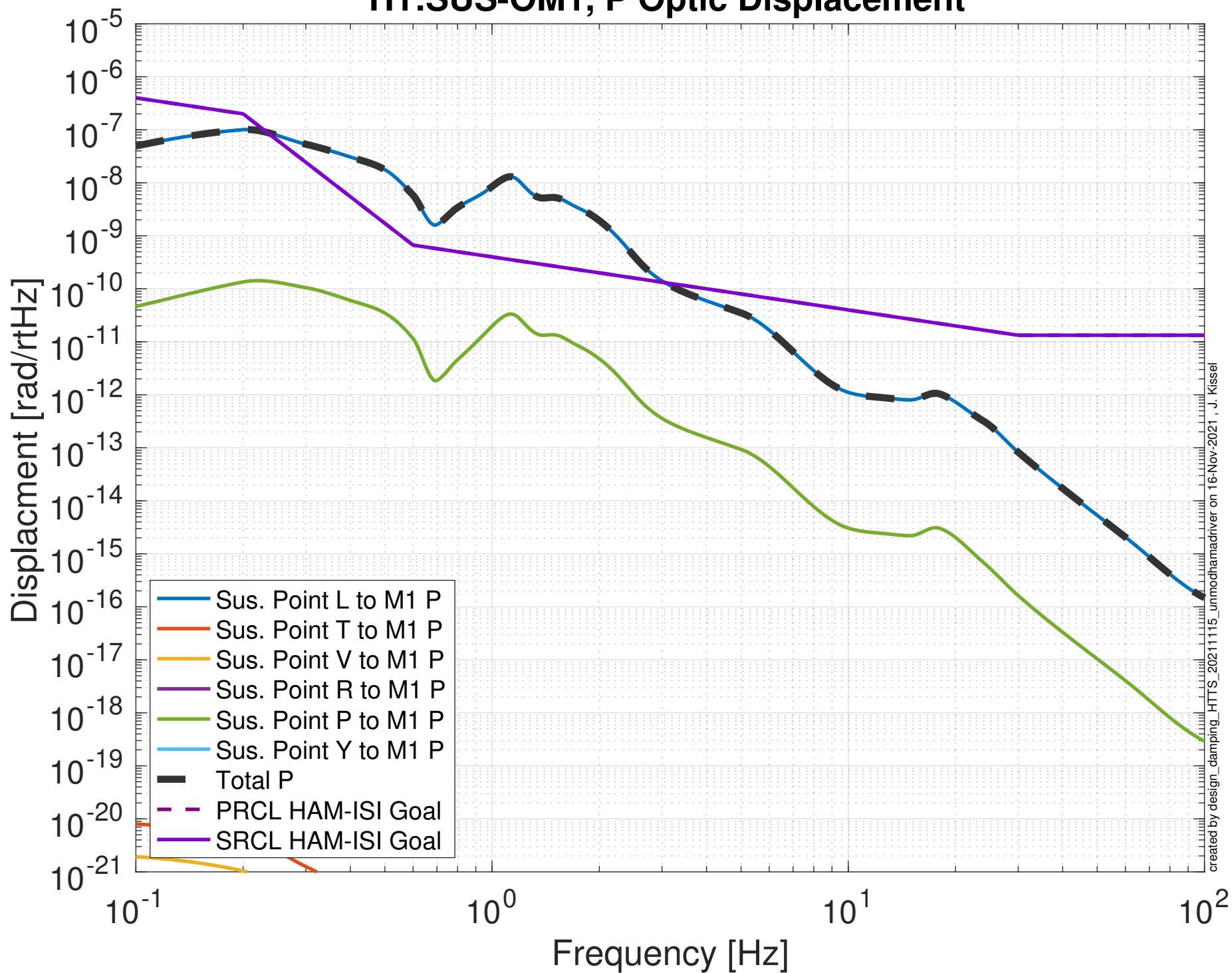


Damped Impulse Response

H1:SUS-OM1 P

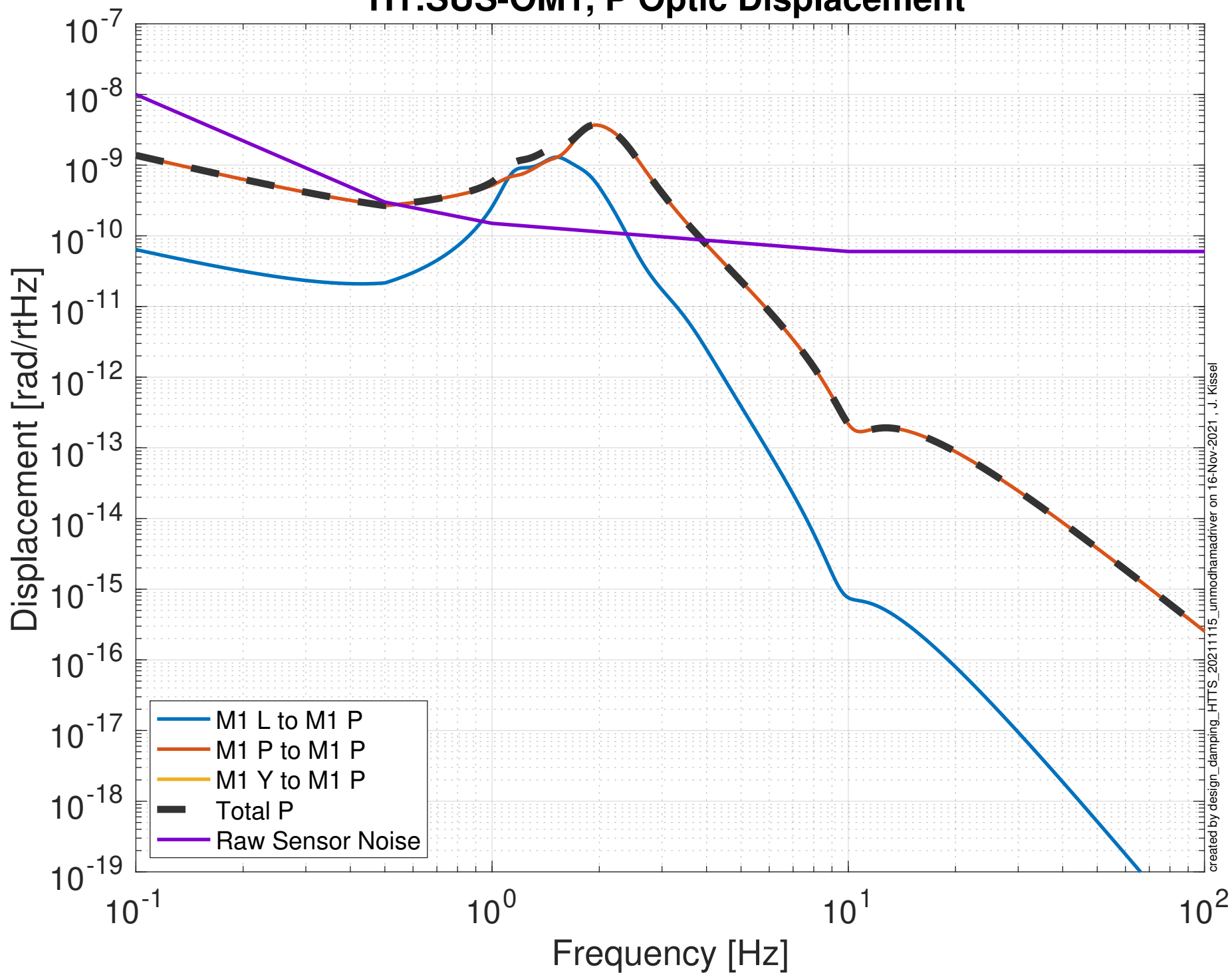


Projected Sus. Point > Optic Seismic Noise Budget H1:SUS-OM1, P Optic Displacement



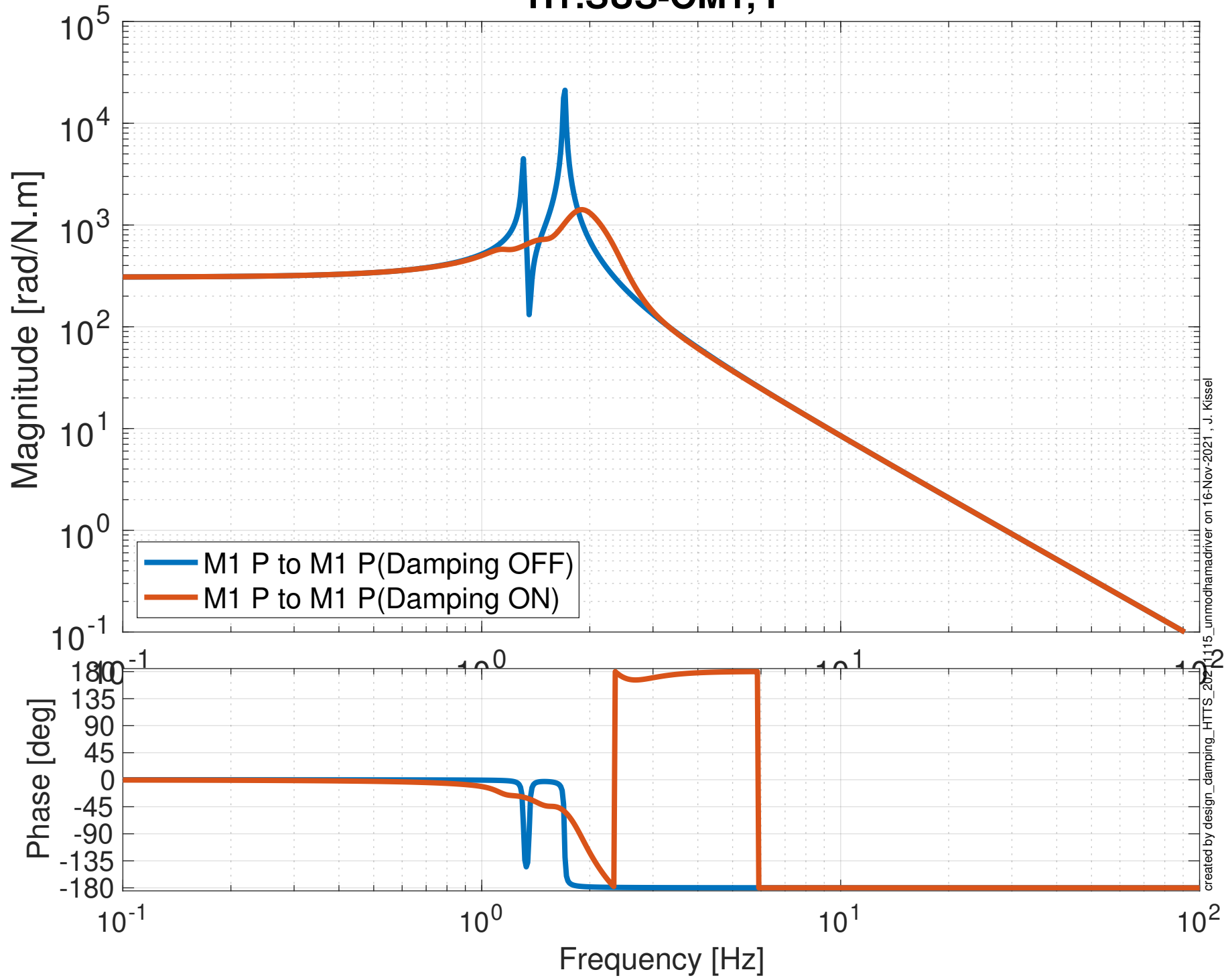
created by design_damping_HTTs_20211115_unmodhadrivr on 16-Nov-2021, J. Kissel

Projected Top Mass Sensor > Optic Noise Budget H1:SUS-OM1, P Optic Displacement

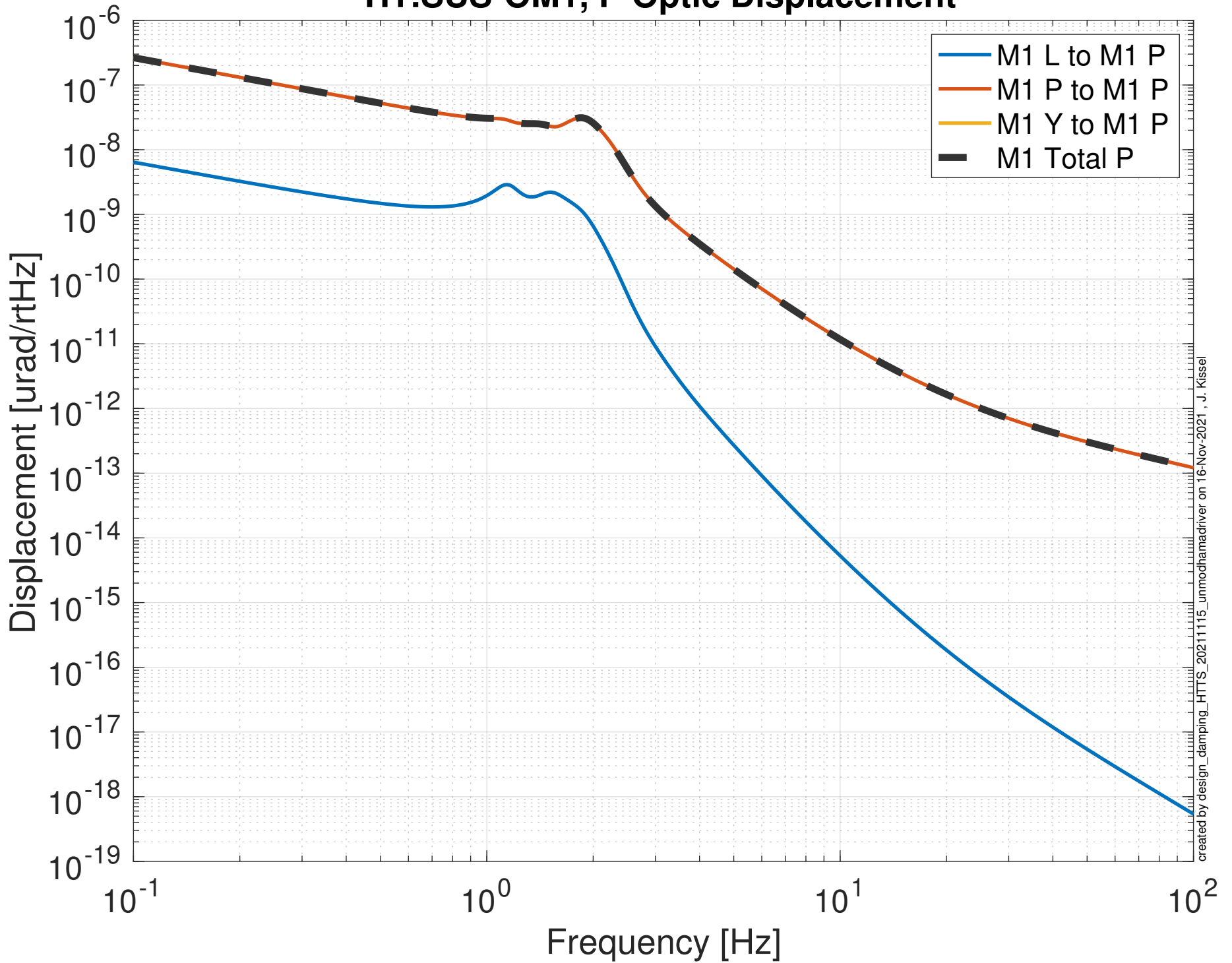


Global Control Transfer Functions to Optic

H1:SUS-OM1, P



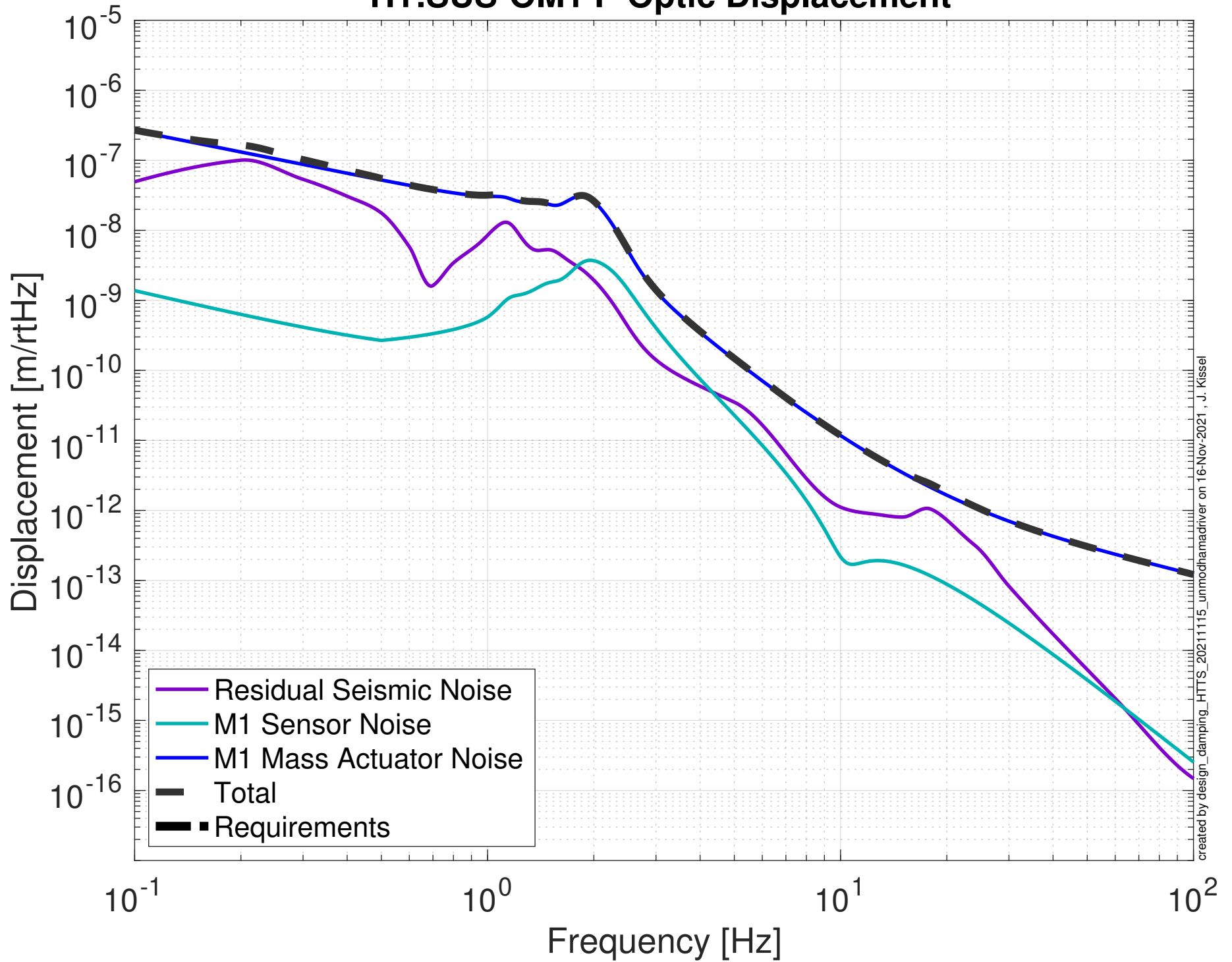
Projected M1 Mass Actuator > Optic Noise Budget H1:SUS-OM1, P Optic Displacement



created by design_damping_HTTs_20211115_unmodhadriv on 16-Nov-2021, J. Kissel

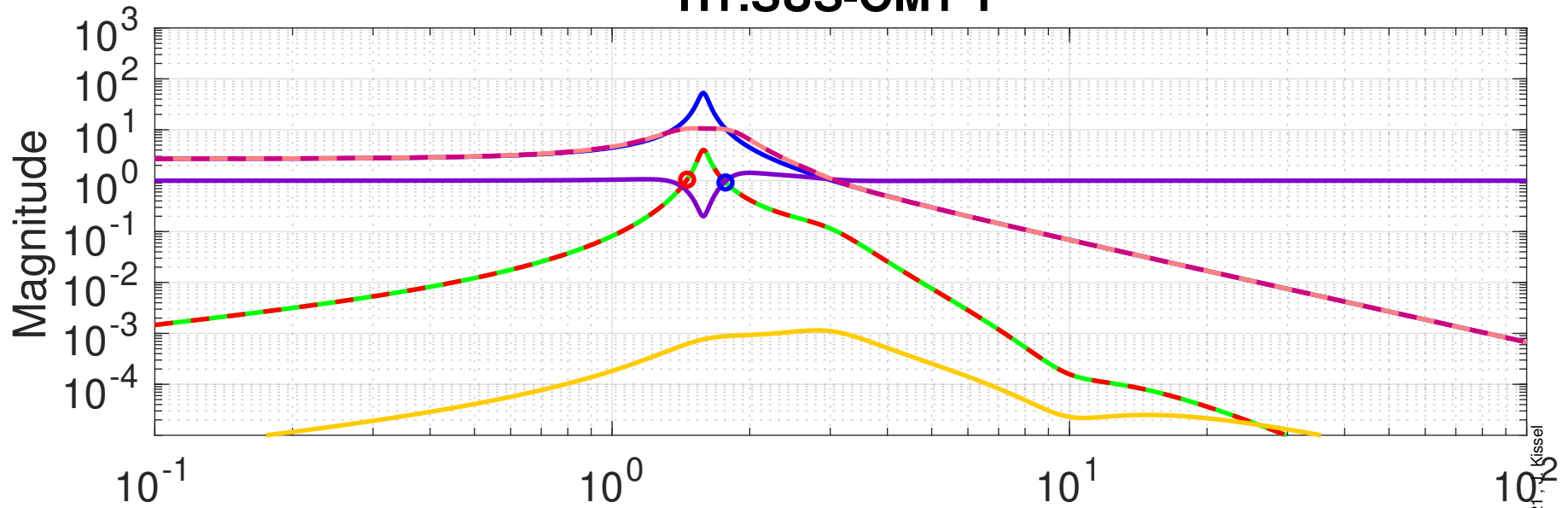
Damping Loop Performance

H1:SUS-OM1 P Optic Displacement

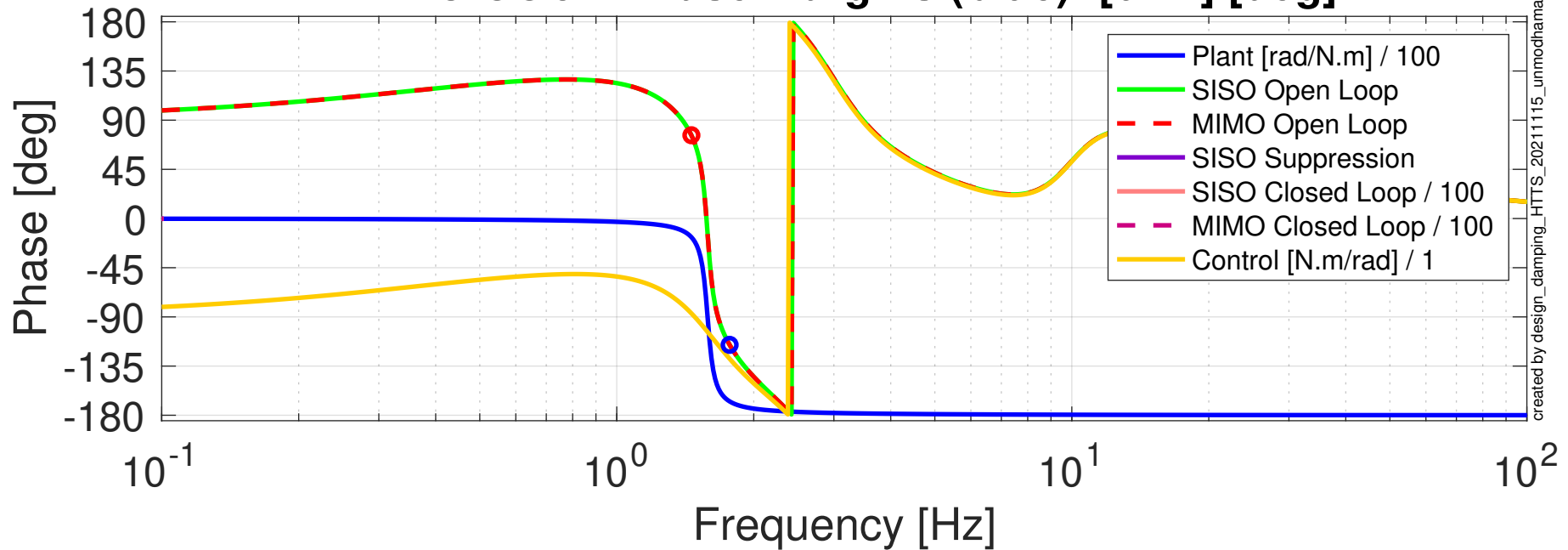


Damping Loop Design

H1:SUS-OM1 Y

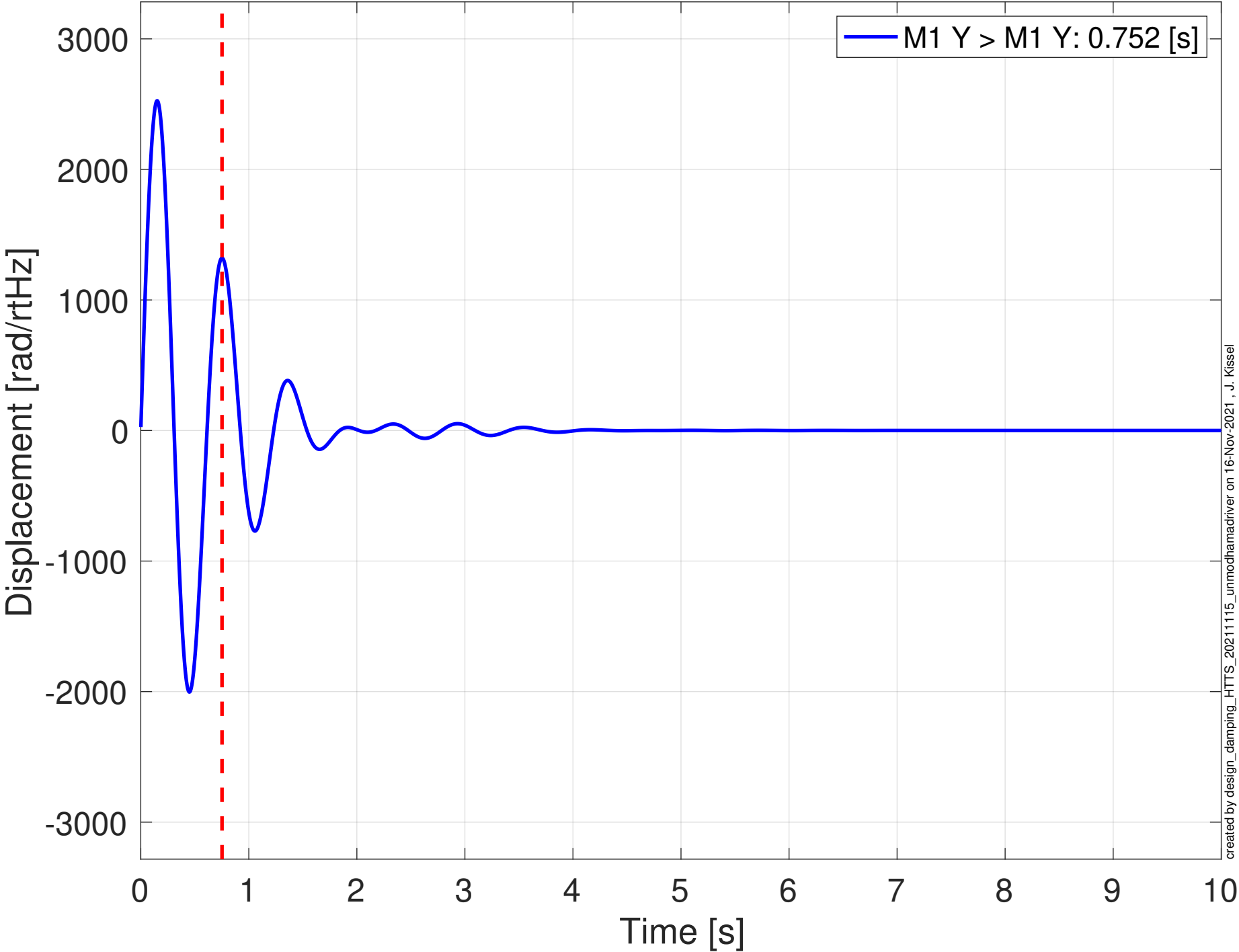


MIMO LUGF Phase Margins (red): [104] [deg]
MIMO UUGF Phase Margins (blue): [64.4] [deg]

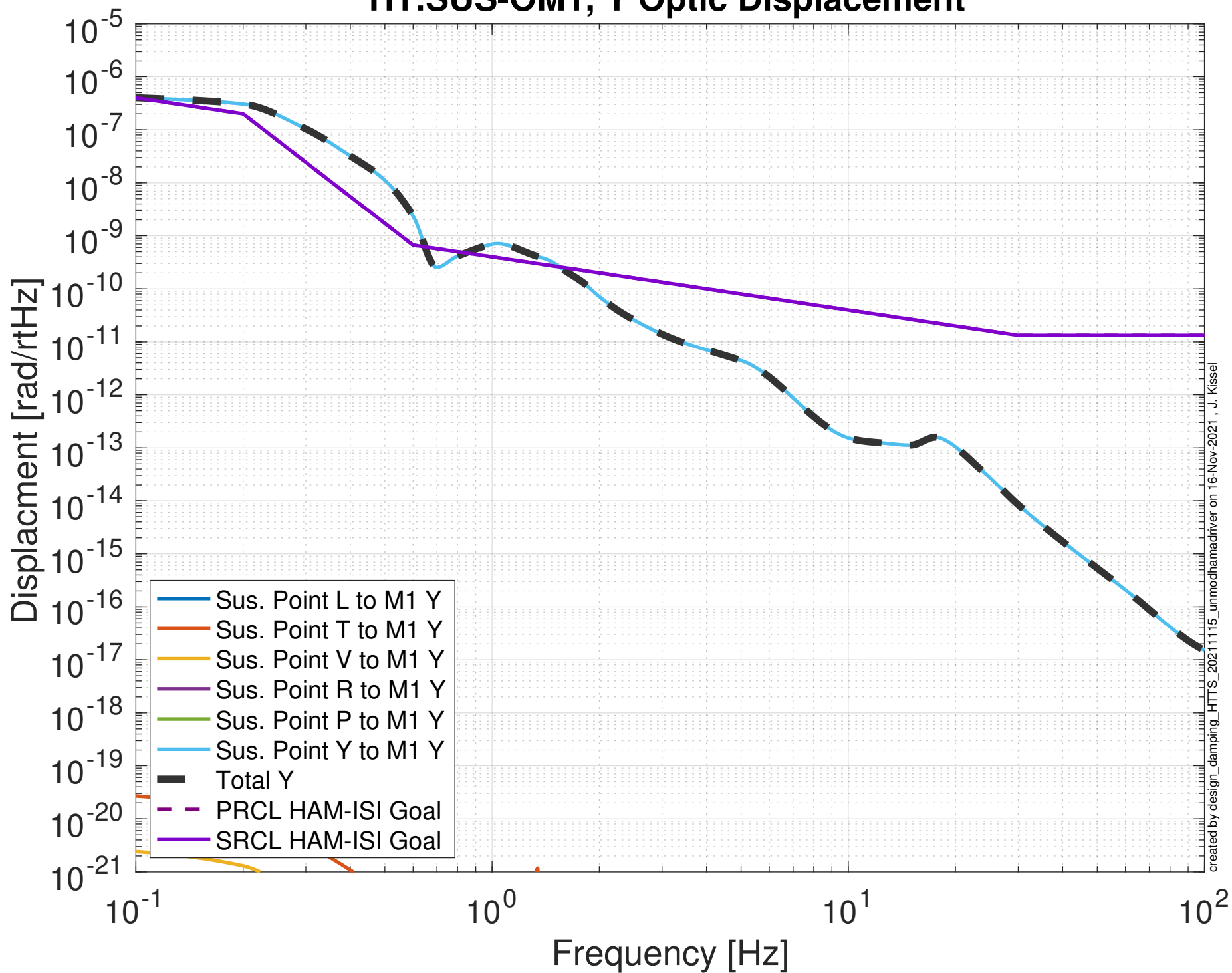


Damped Impulse Response

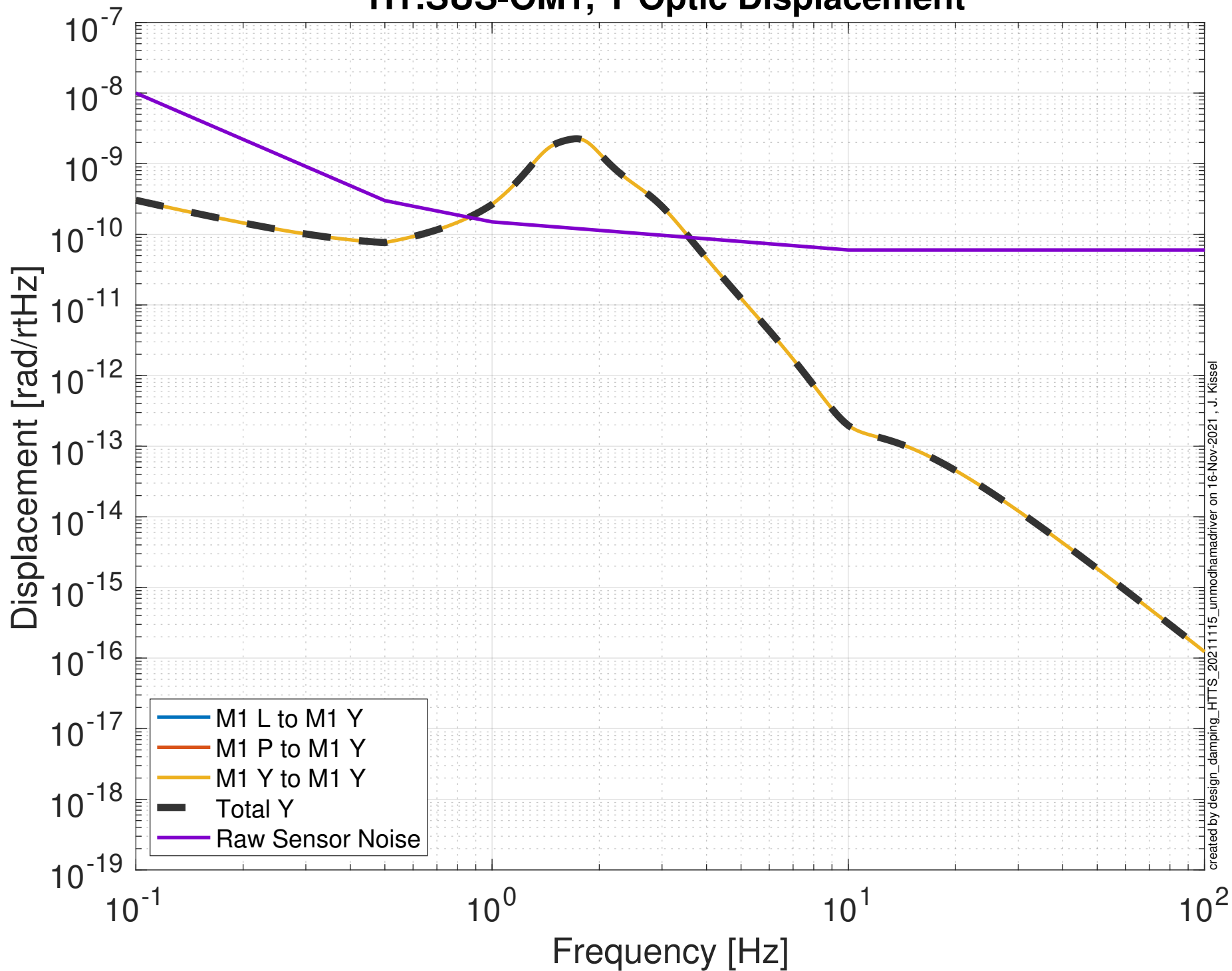
H1:SUS-OM1 Y



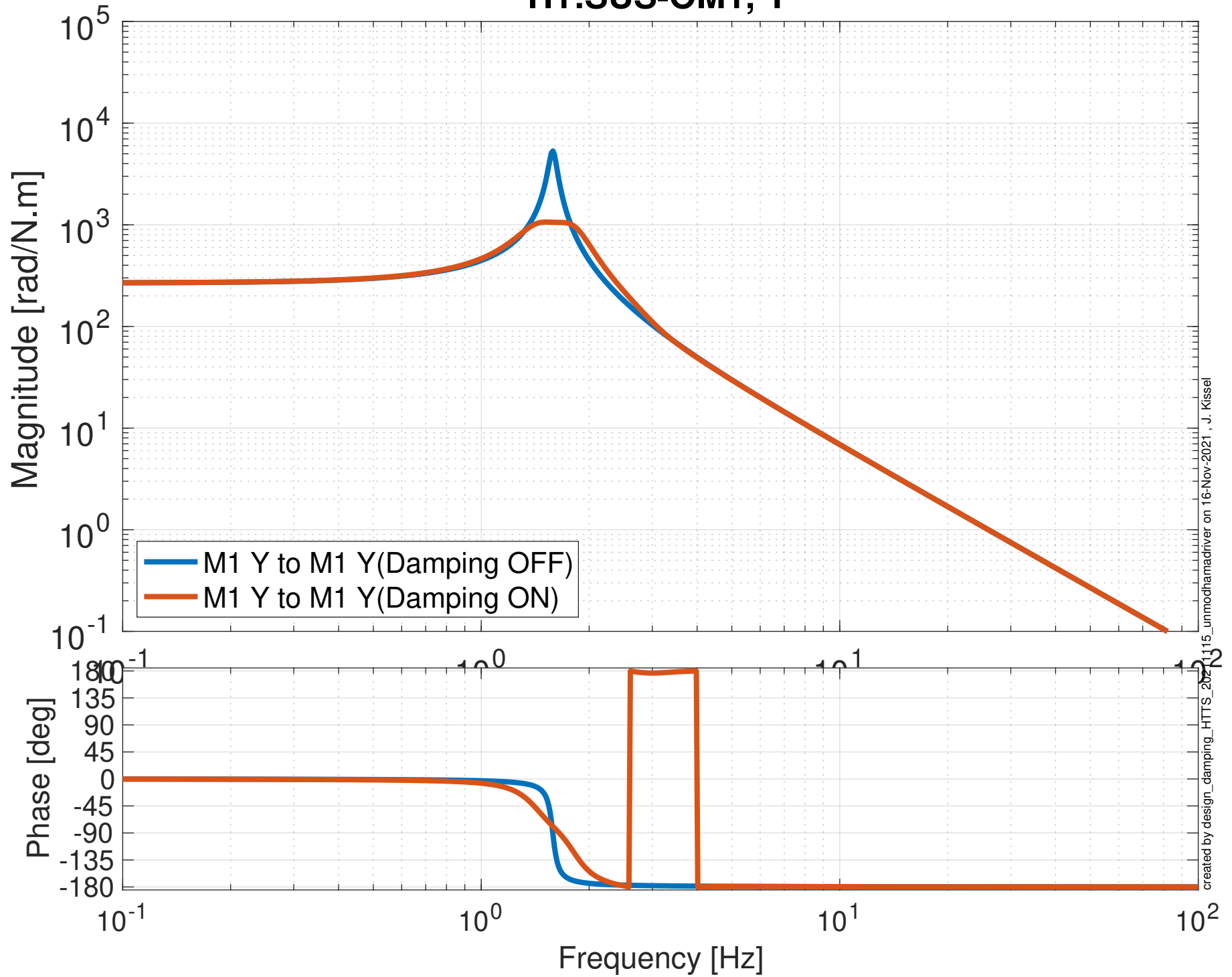
Projected Sus. Point > Optic Seismic Noise Budget H1:SUS-OM1, Y Optic Displacement



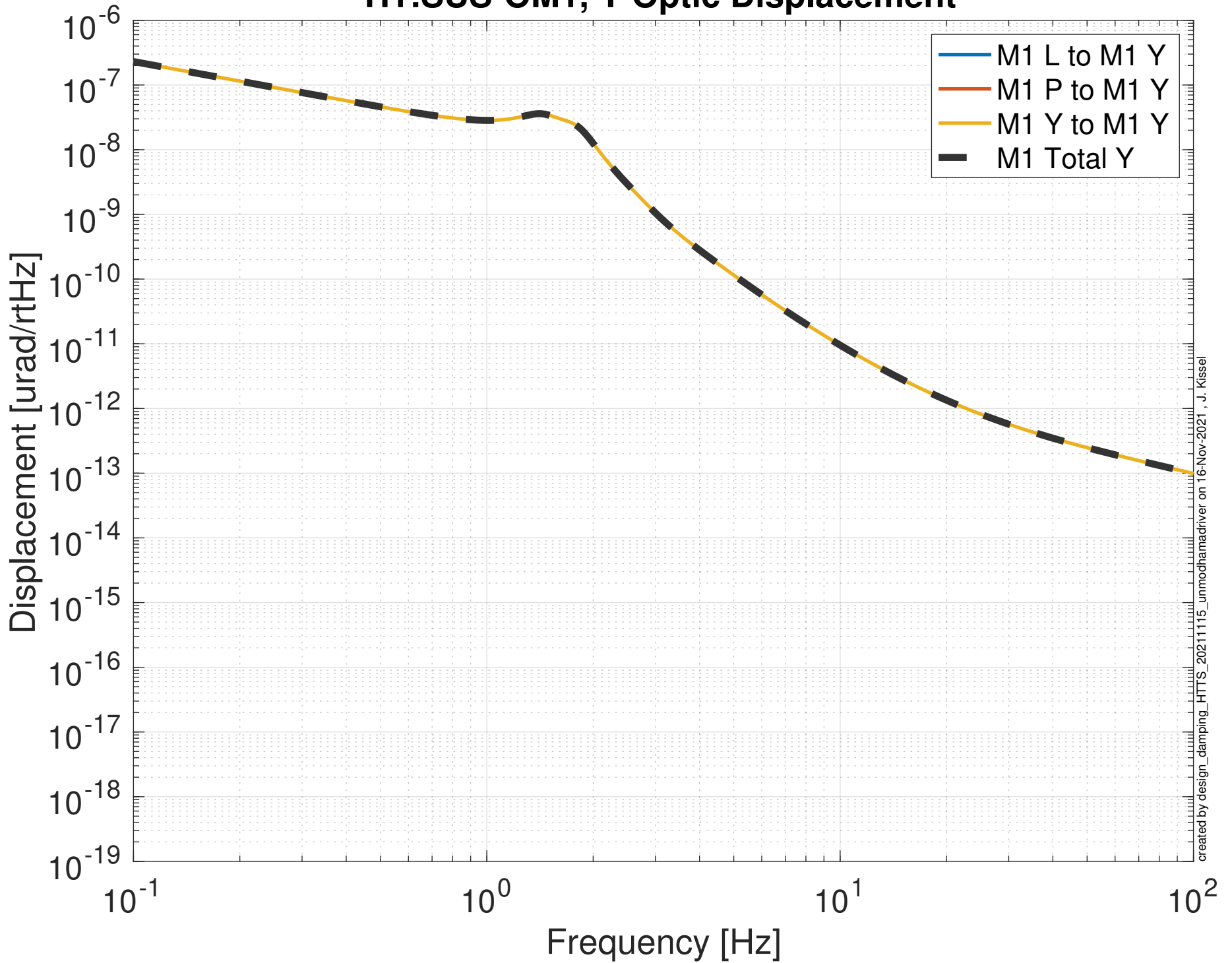
Projected Top Mass Sensor > Optic Noise Budget H1:SUS-OM1, Y Optic Displacement



Global Control Transfer Functions to Optic H1:SUS-OM1, Y



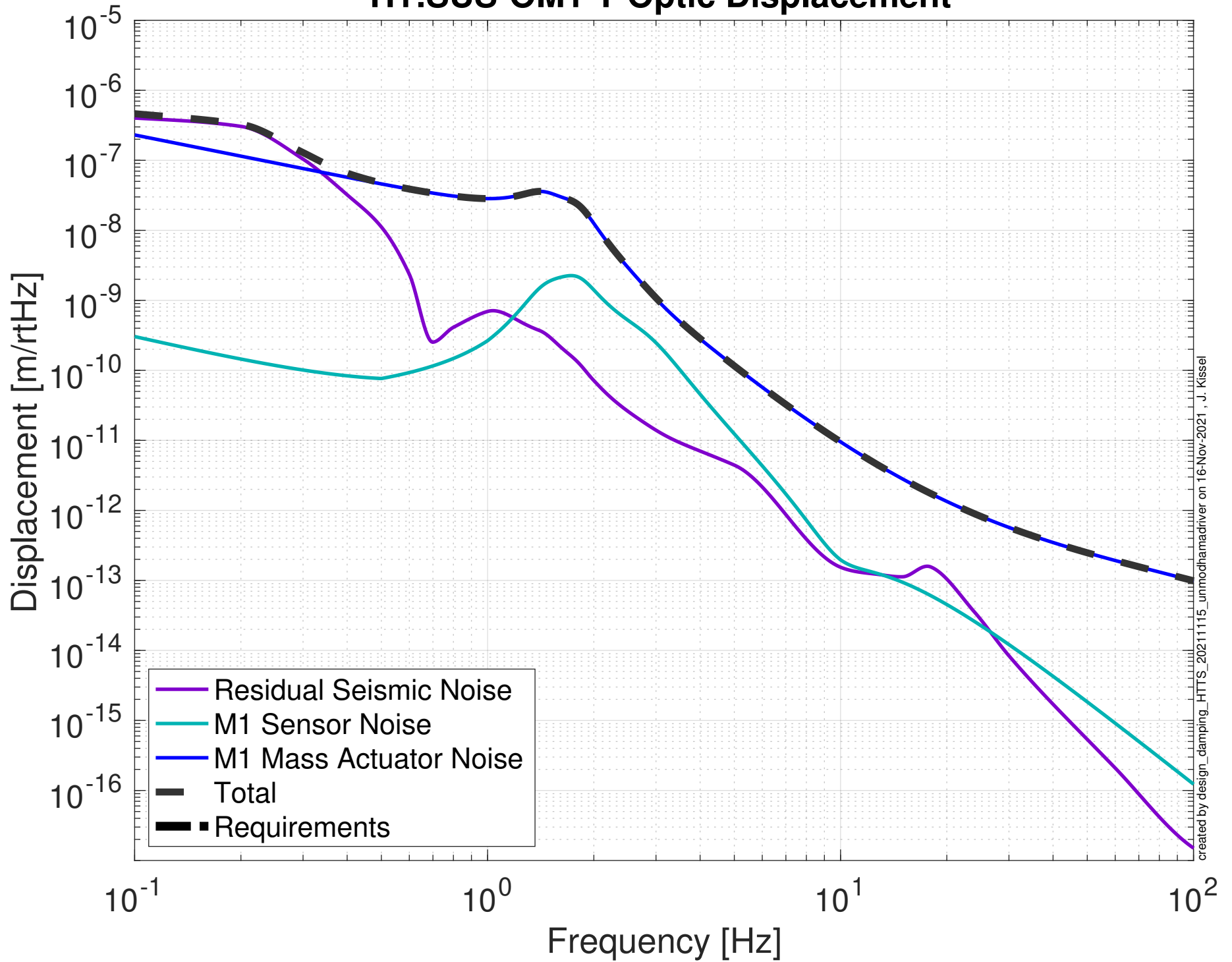
Projected M1 Mass Actuator > Optic Noise Budget H1:SUS-OM1, Y Optic Displacement



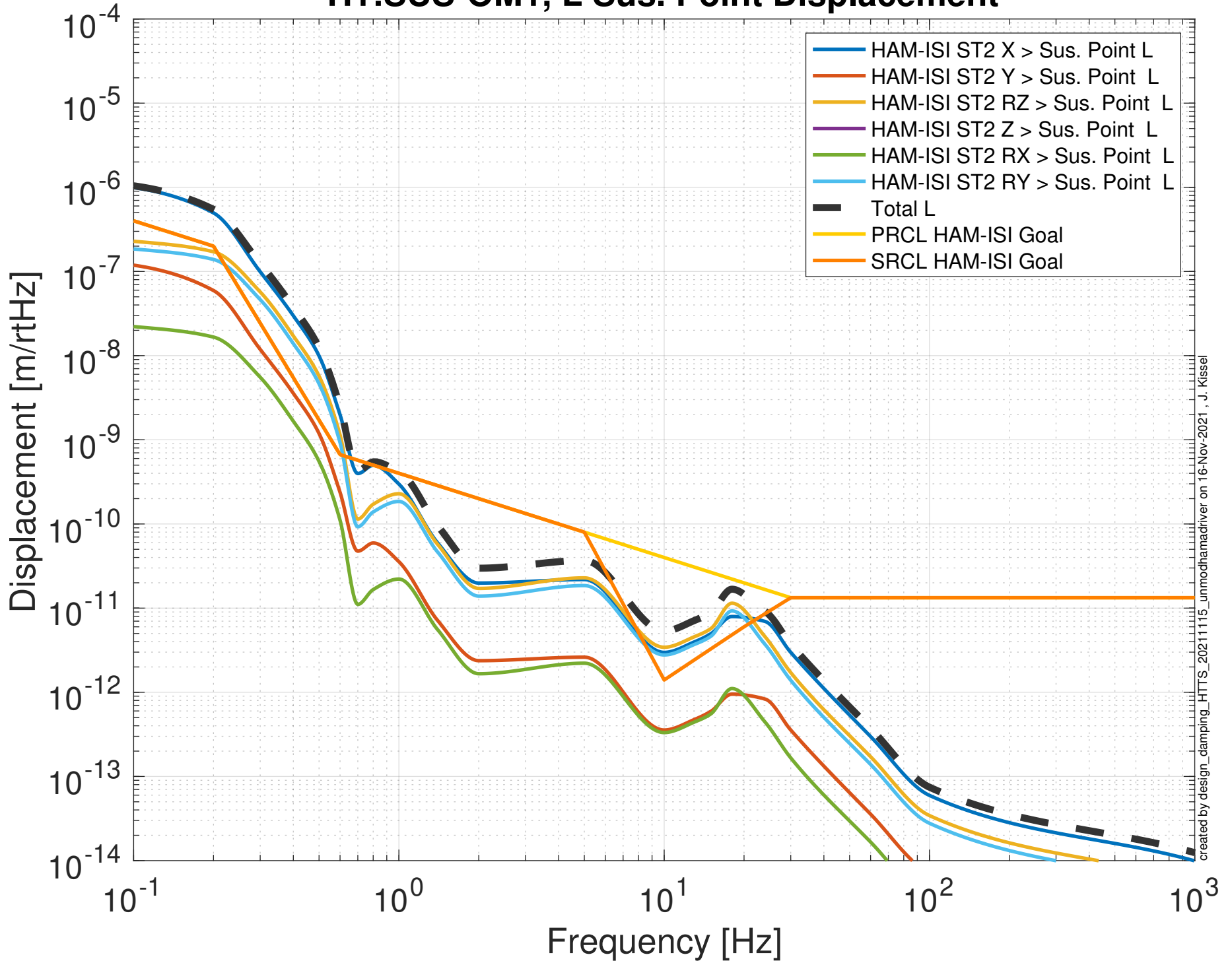
created by design_damping_HTTs_20211115_unmodhadriv on 16-Nov-2021, J. Kissel

Damping Loop Performance

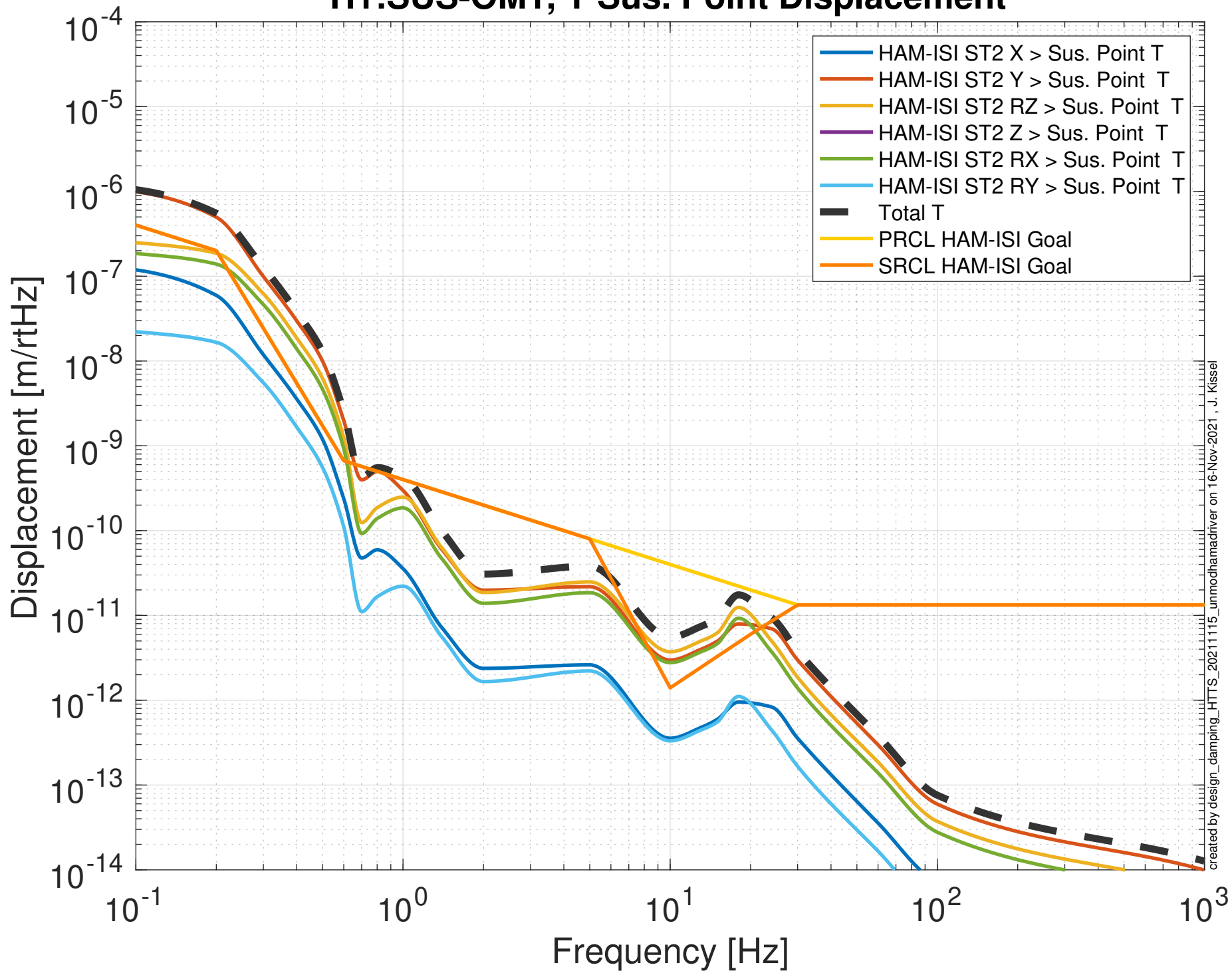
H1:SUS-OM1 Y Optic Displacement



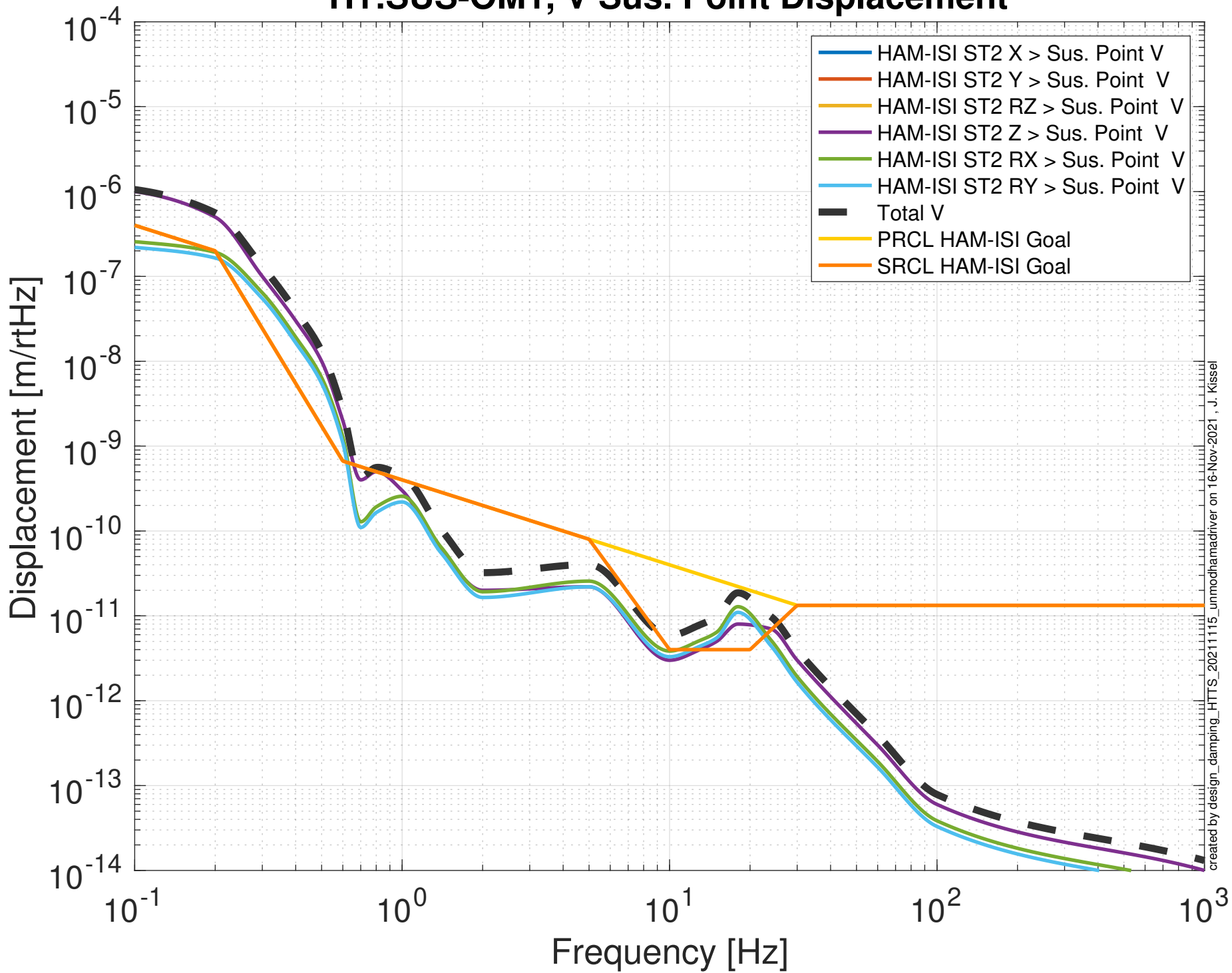
Projected ISI Seismic Noise Budget H1:SUS-OM1, L Sus. Point Displacement



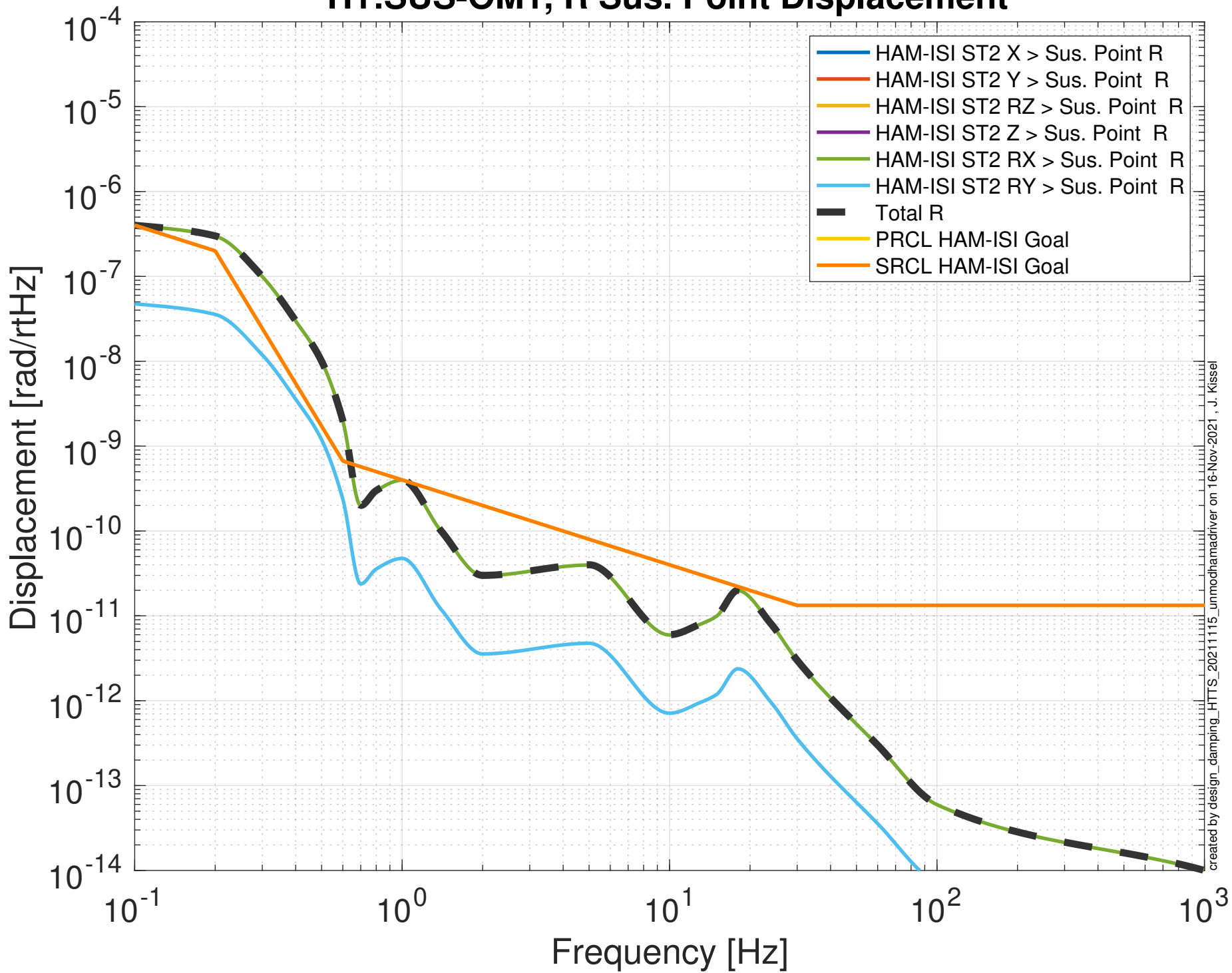
Projected ISI Seismic Noise Budget H1:SUS-OM1, T Sus. Point Displacement



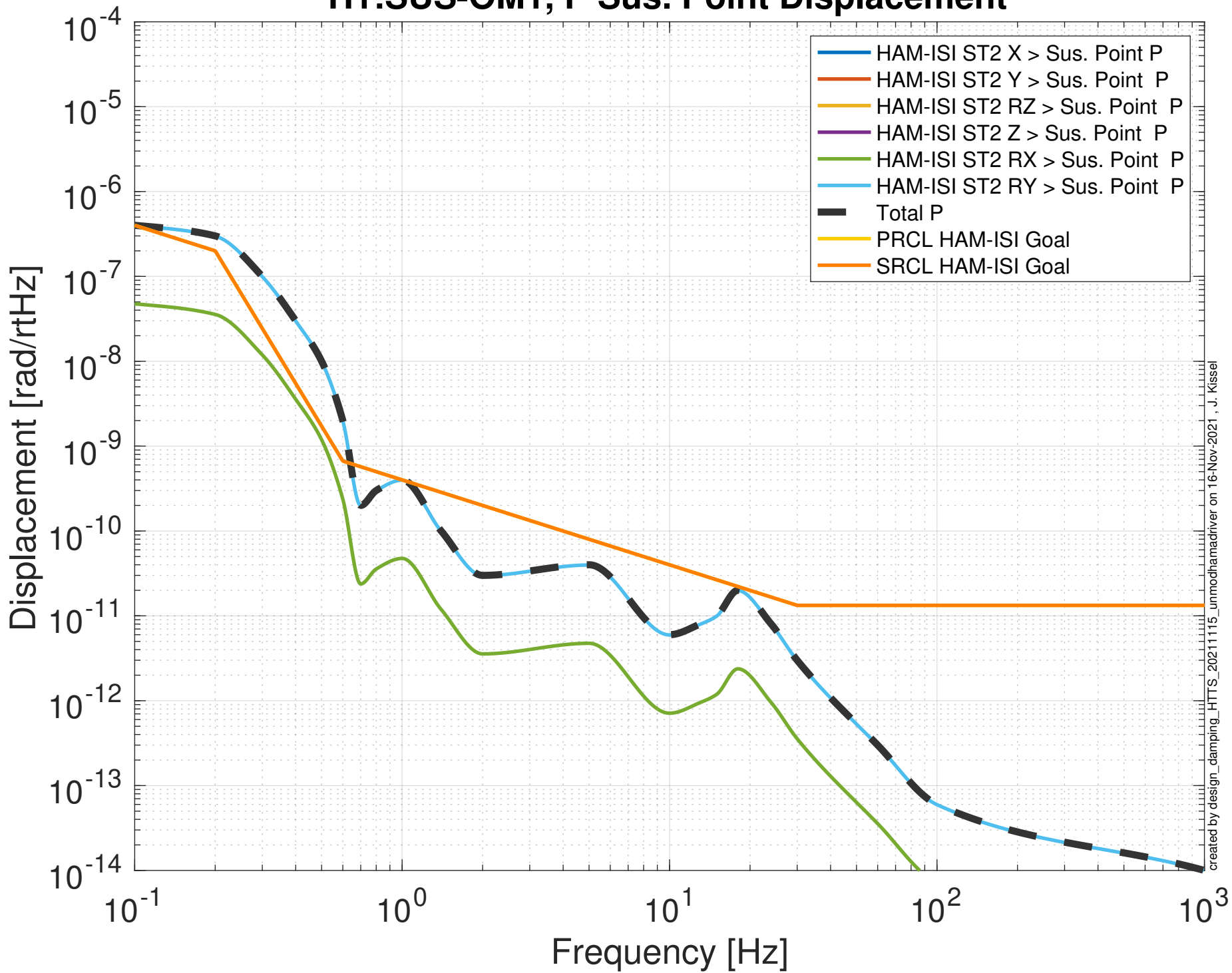
Projected ISI Seismic Noise Budget H1:SUS-OM1, V Sus. Point Displacement



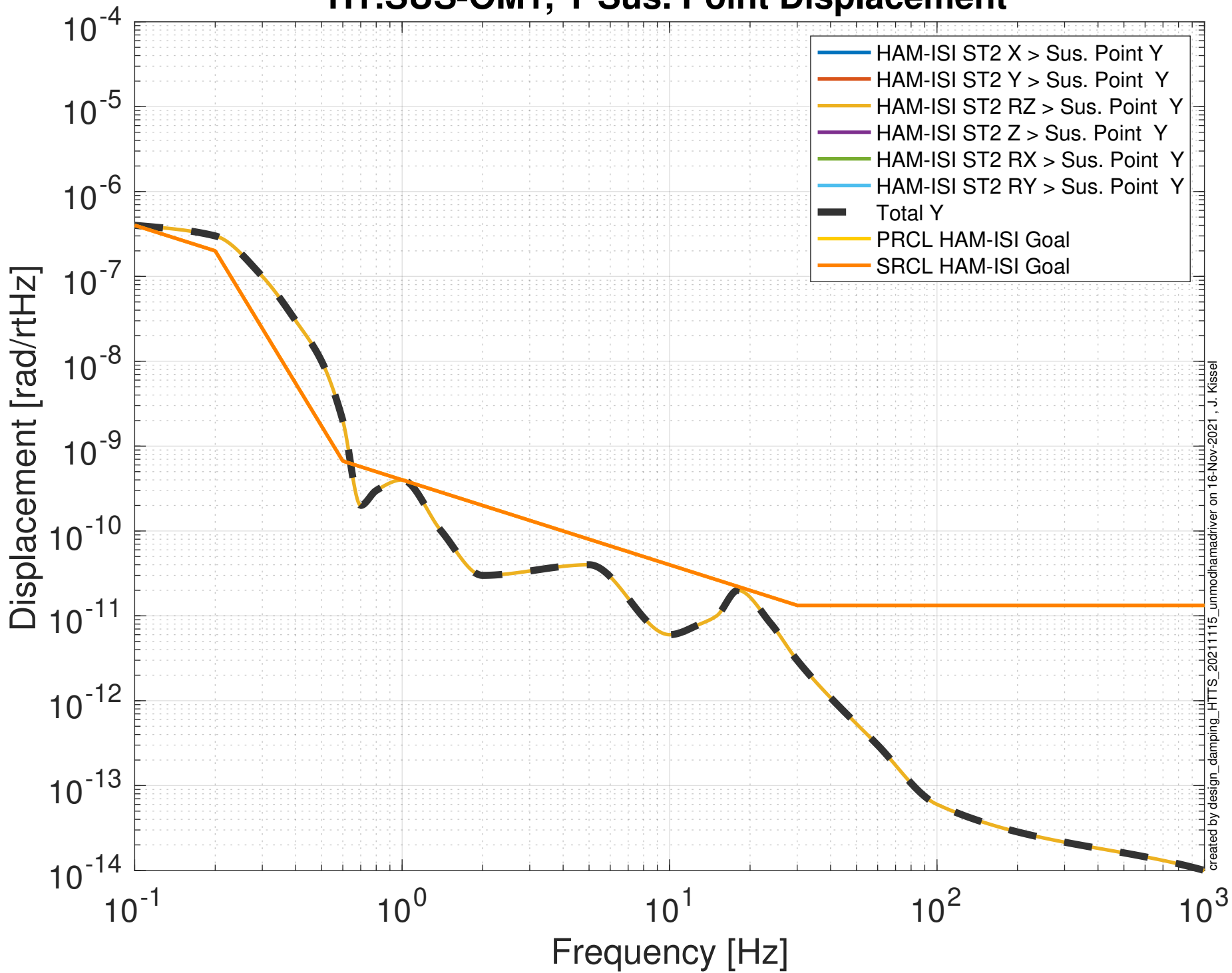
Projected ISI Seismic Noise Budget H1:SUS-OM1, R Sus. Point Displacement



Projected ISI Seismic Noise Budget H1:SUS-OM1, P Sus. Point Displacement



Projected ISI Seismic Noise Budget H1:SUS-OM1, Y Sus. Point Displacement



Projected Input Top Mass Sensor Noise Budget

