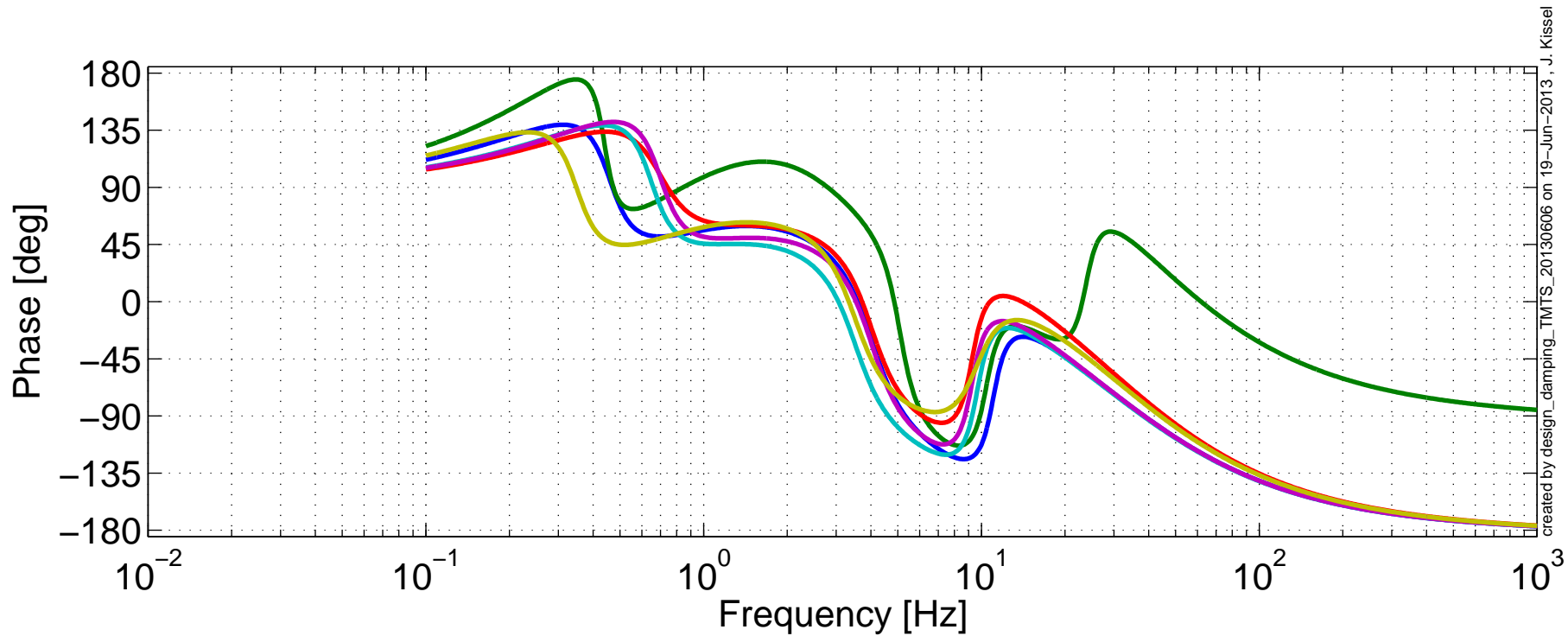
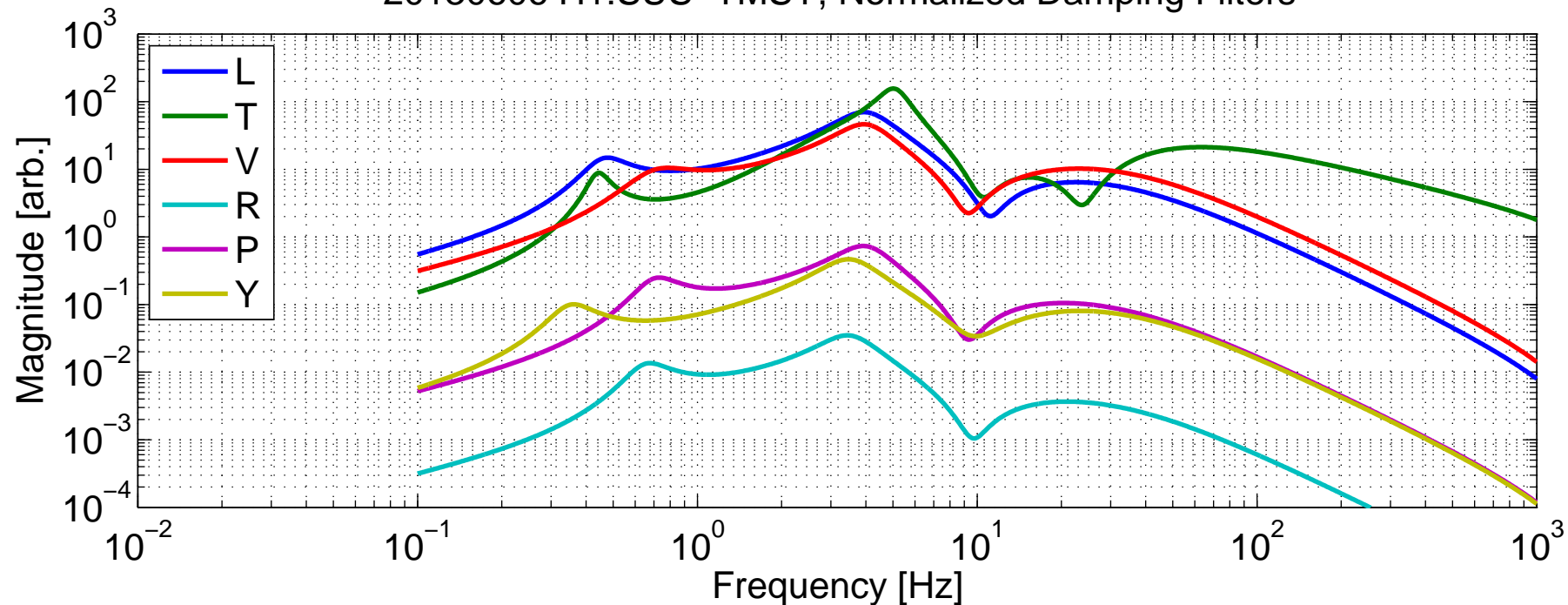
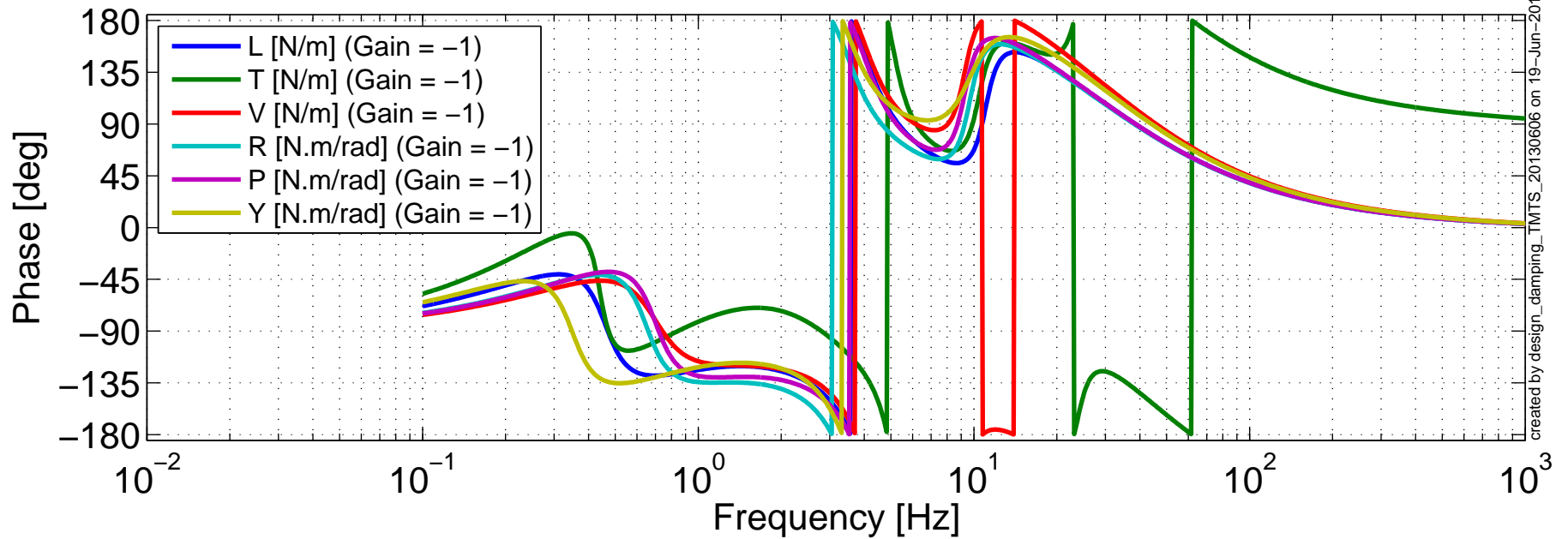
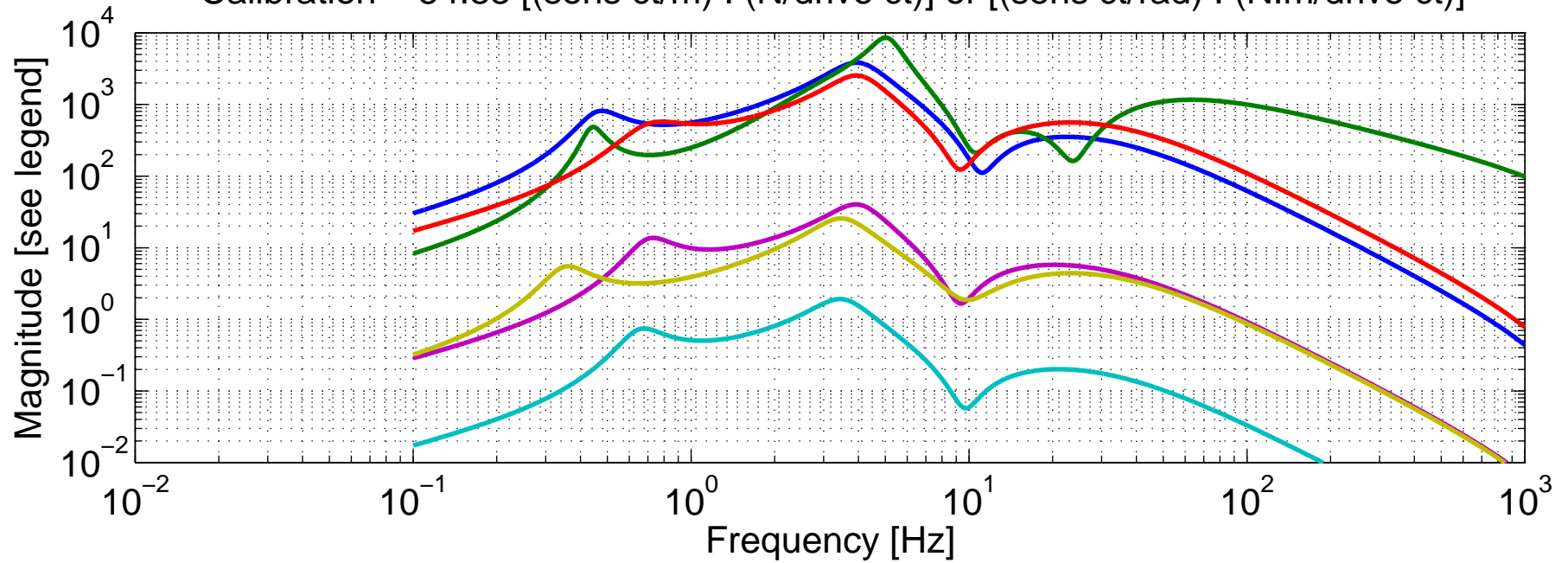


20130606 H1:SUS-TMSY, Normalized Damping Filters

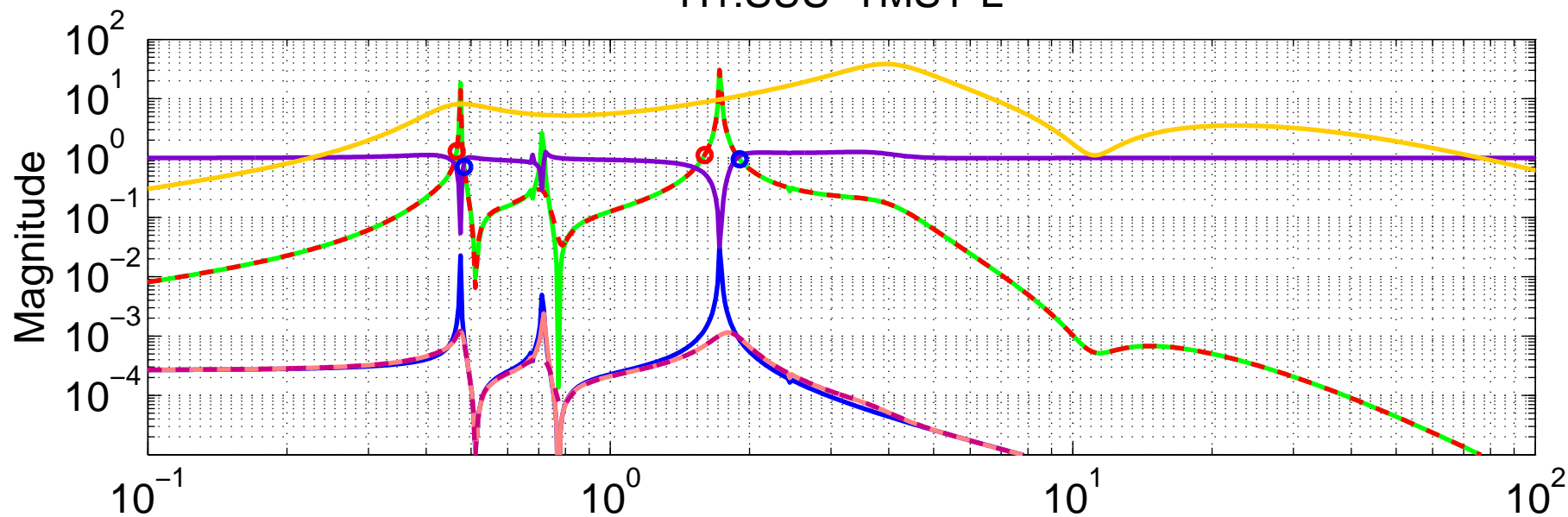


created by design_damping_TMTS_20130606 on 19-Jun-2013, J. Kissel

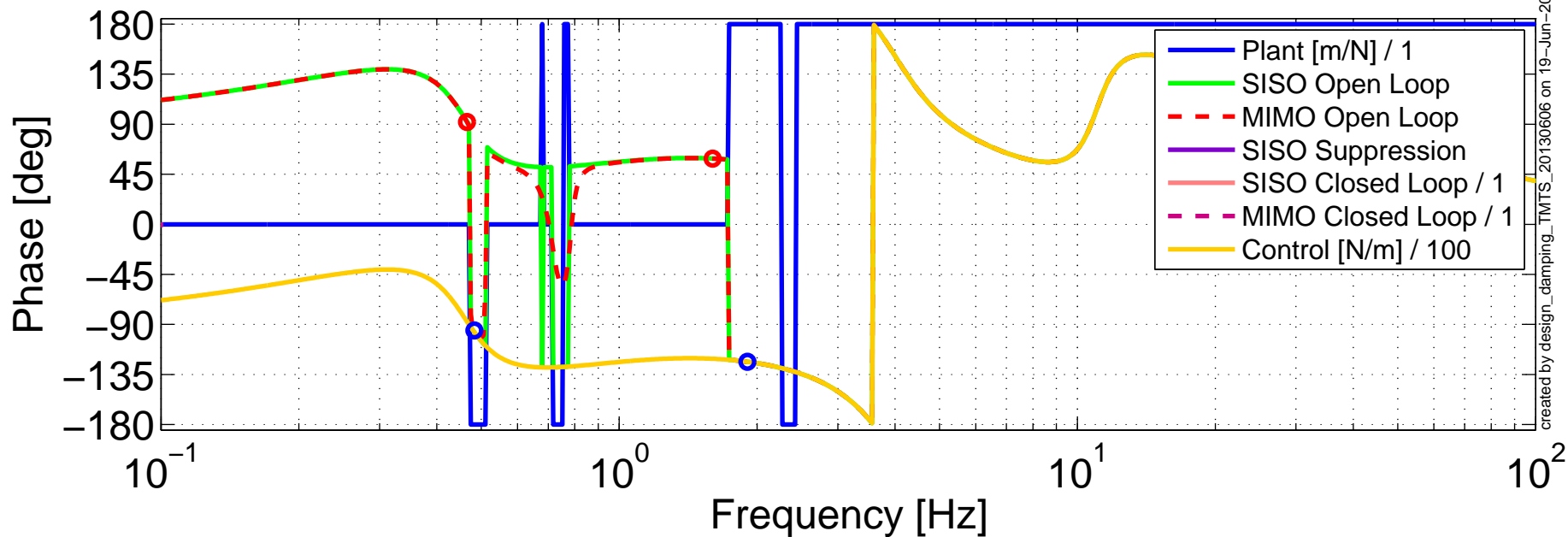
20130606 H1:SUS-TMSY, Calibrated Damping Filters
 Calibration = 54.83 [(sens ct/m) . (N/drive ct)] or [(sens ct/rad) . (N.m/drive ct)]



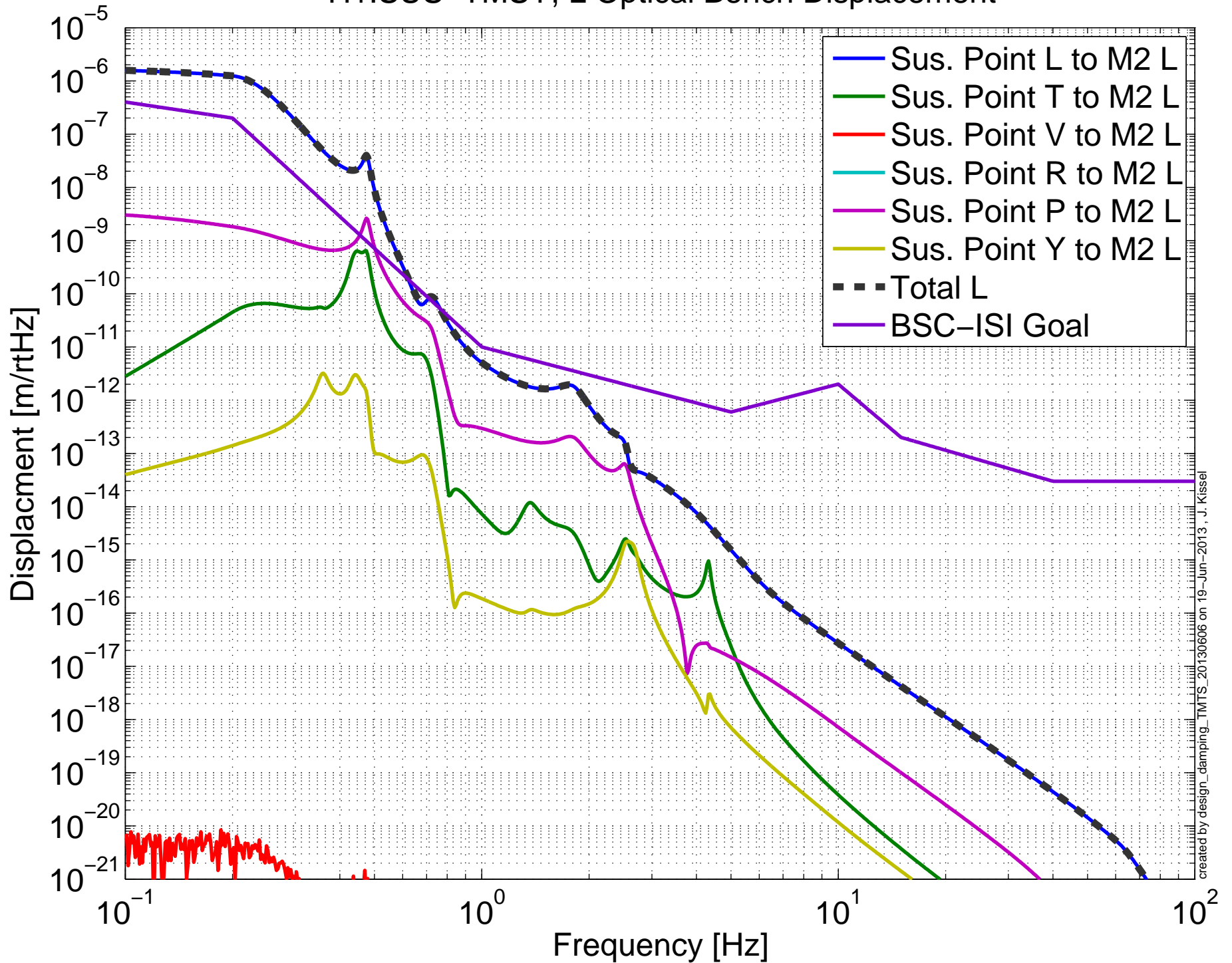
Damping Loop Design H1:SUS-TMSY L



MIMO LUGF Phase Margins (red): [87.9 121] [deg]
MIMO UUGF Phase Margins (blue): [84.6 56.4] [deg]

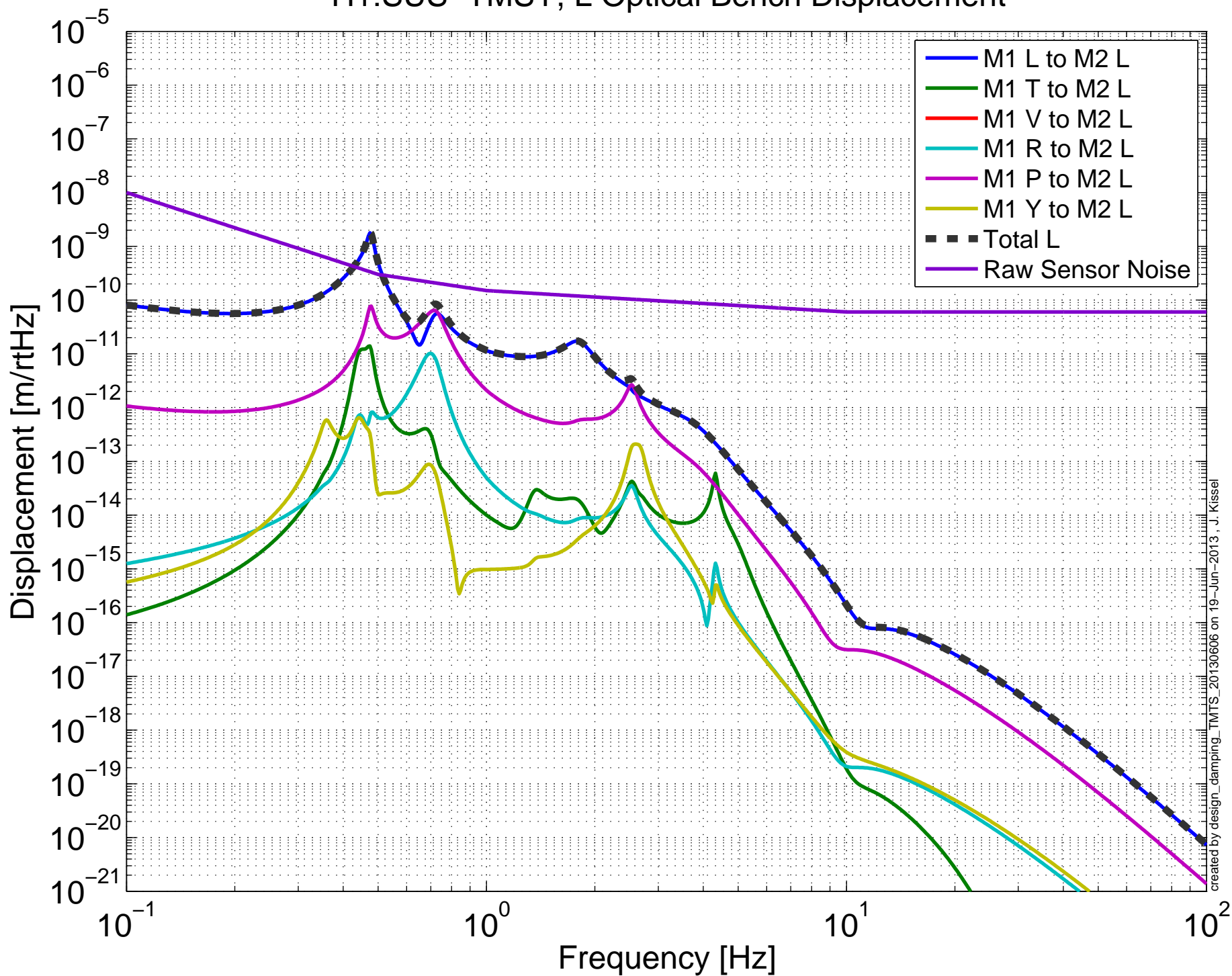


Projected Sus. Point > Optical Bench Seismic Noise Budget H1:SUS-TMSY, L Optical Bench Displacement

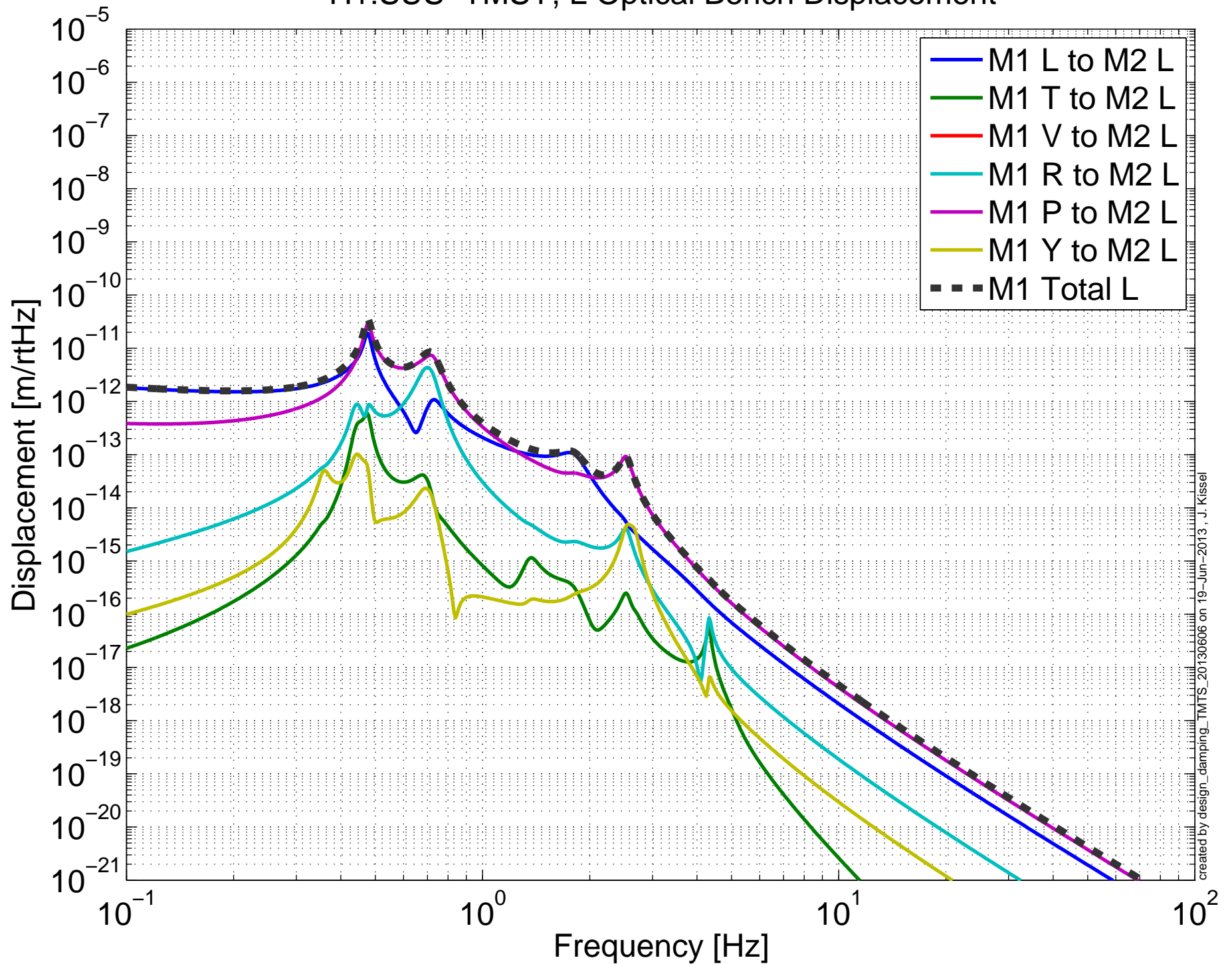


created by design_damping_TMTS_20130606 on 19-Jun-2013 - J. Kissel

Projected Top Mass Sensor > Optical Bench Noise Budget H1:SUS-TMSY, L Optical Bench Displacement

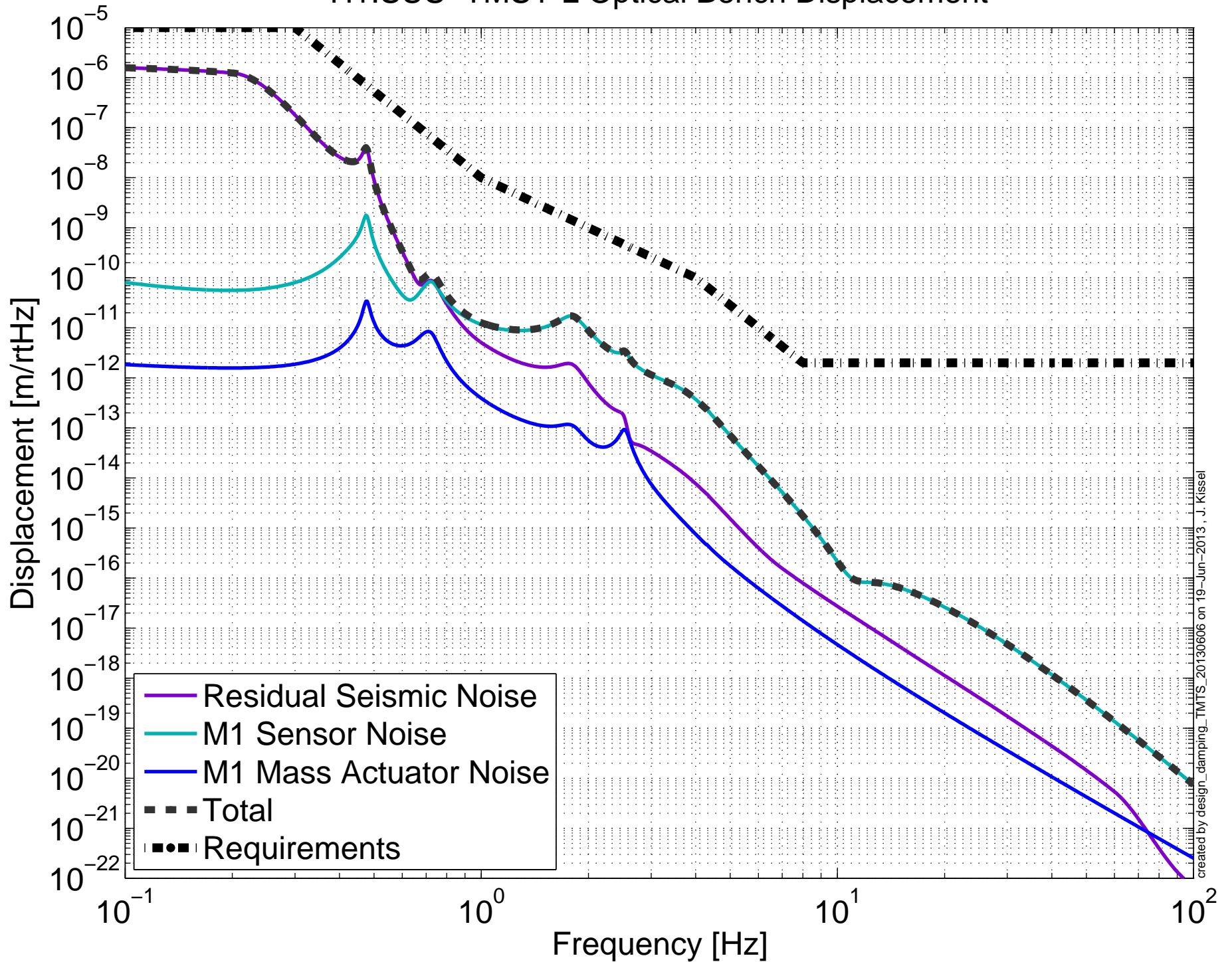


Projected M1 Mass Actuator > Optical Bench Noise Budget H1:SUS-TMSY, L Optical Bench Displacement



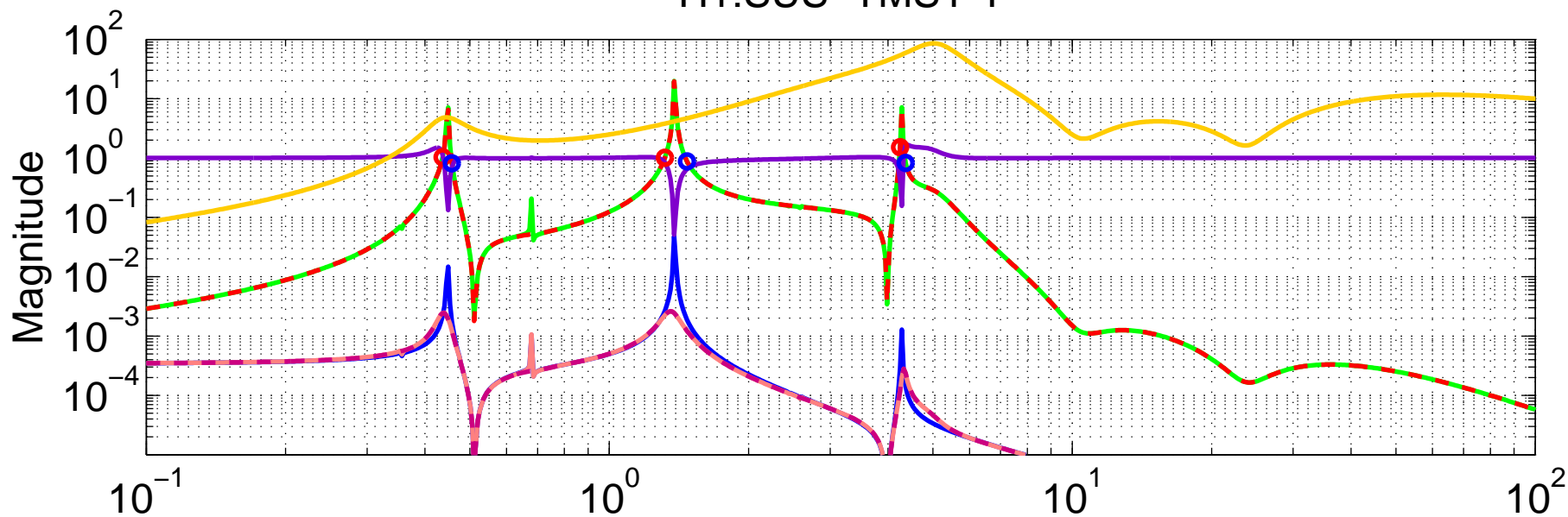
Damping Loop Performance

H1:SUS-TMSY L Optical Bench Displacement

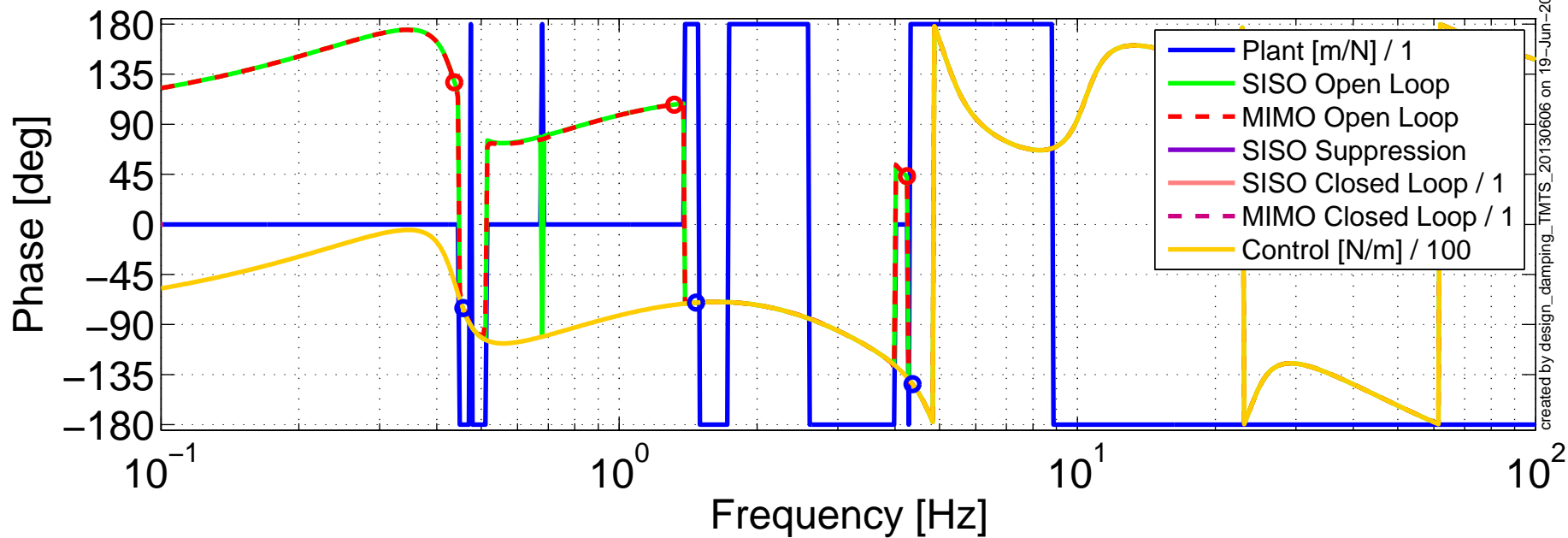


Damping Loop Design

H1:SUS-TMSY T

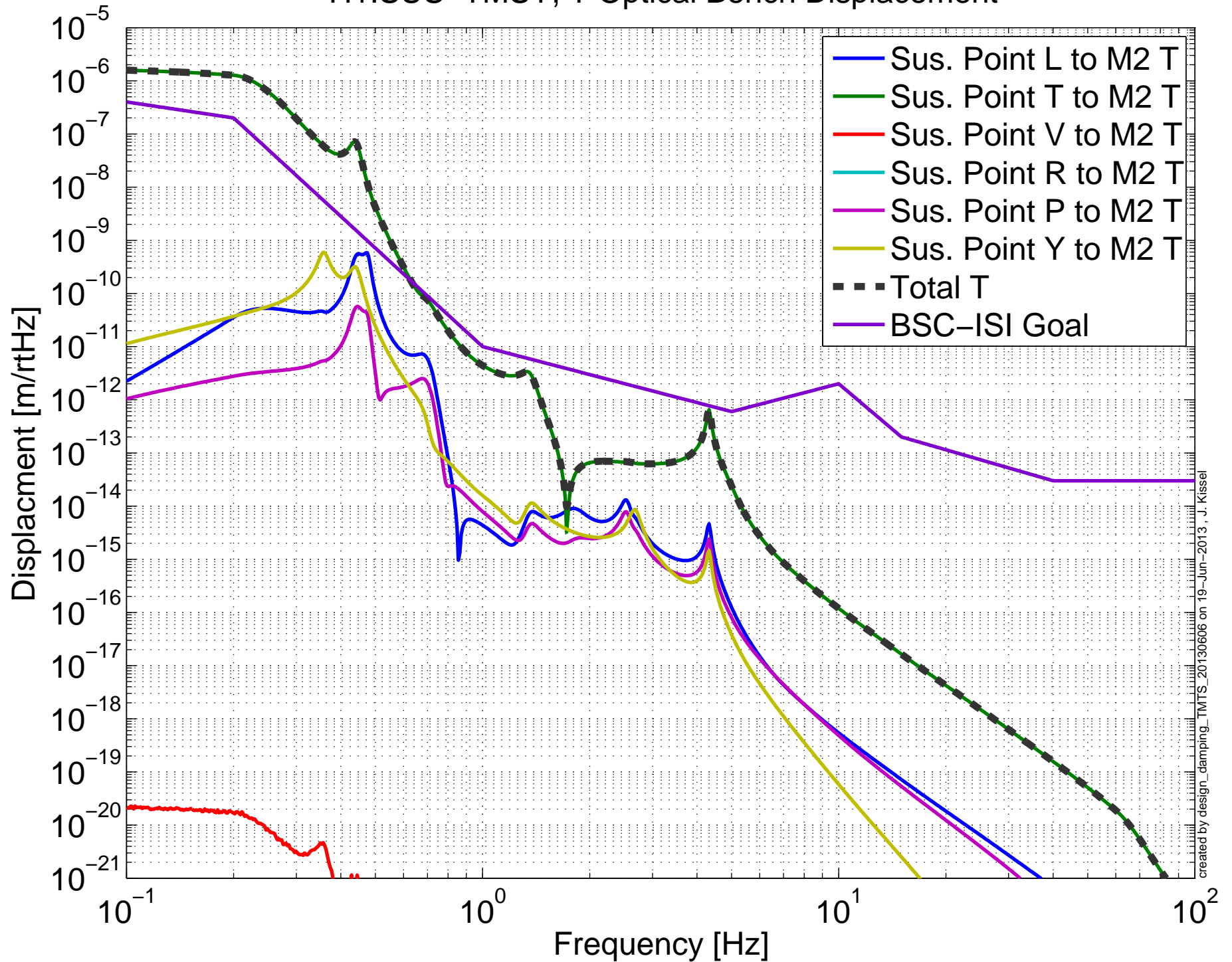


MIMO LUGF Phase Margins (red): [52.3 72.4 137] [deg]
MIMO UUGF Phase Margins (blue): [105 110 36.4] [deg]

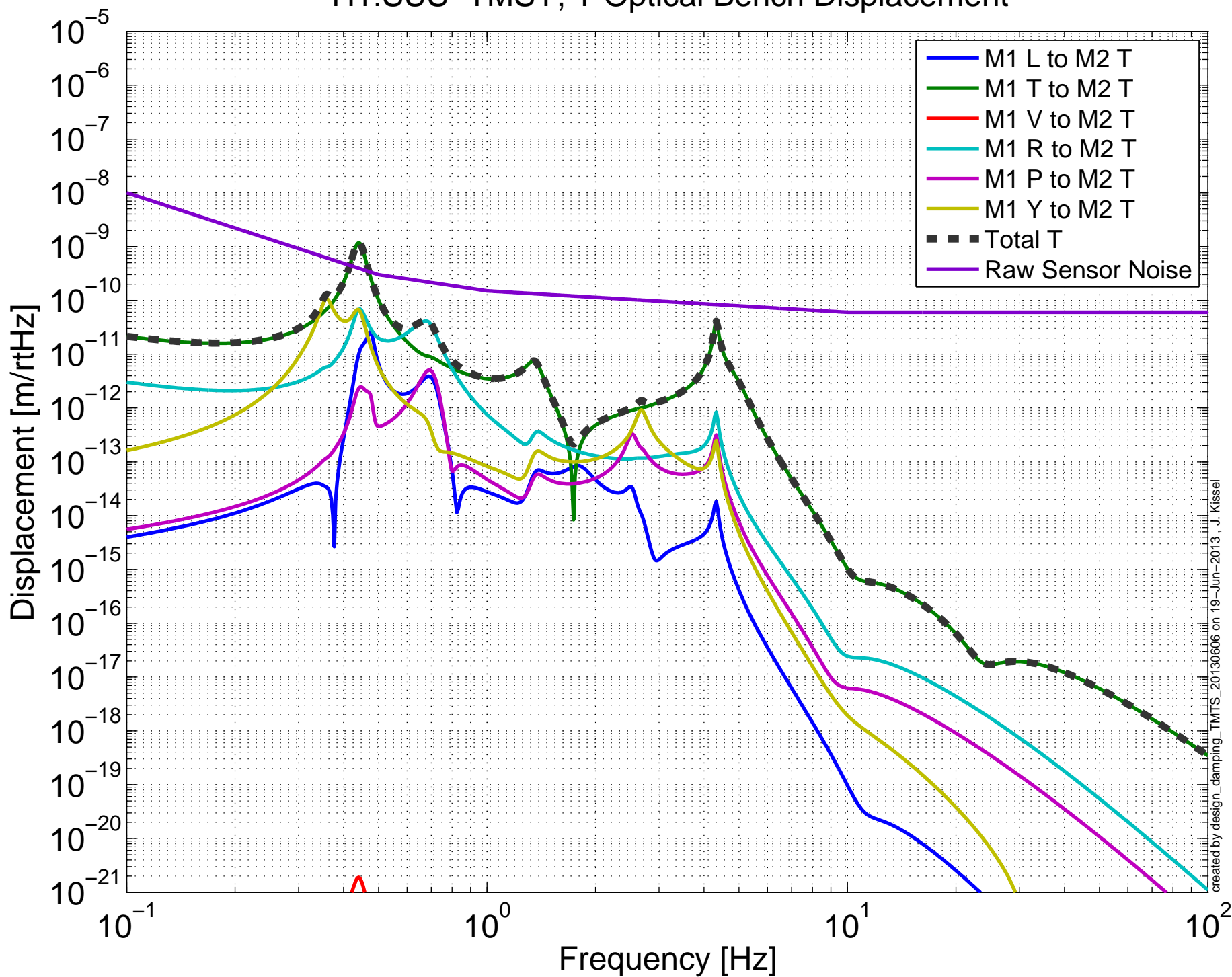


created by design_damping_TMFS_20130606 on 19-Jun-2013, J. Kissel

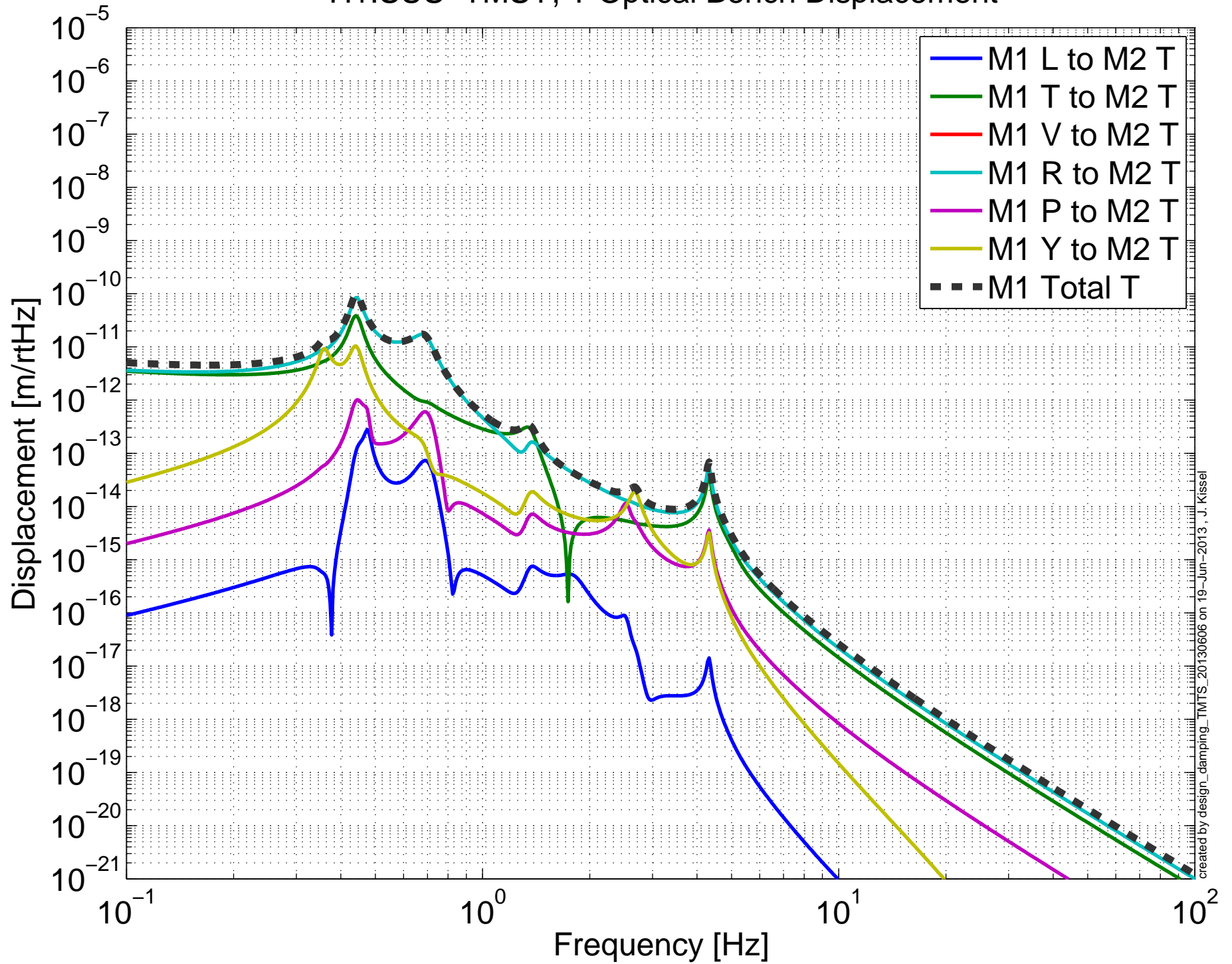
Projected Sus. Point > Optical Bench Seismic Noise Budget H1:SUS-TMSY, T Optical Bench Displacement



Projected Top Mass Sensor > Optical Bench Noise Budget H1:SUS-TMSY, T Optical Bench Displacement

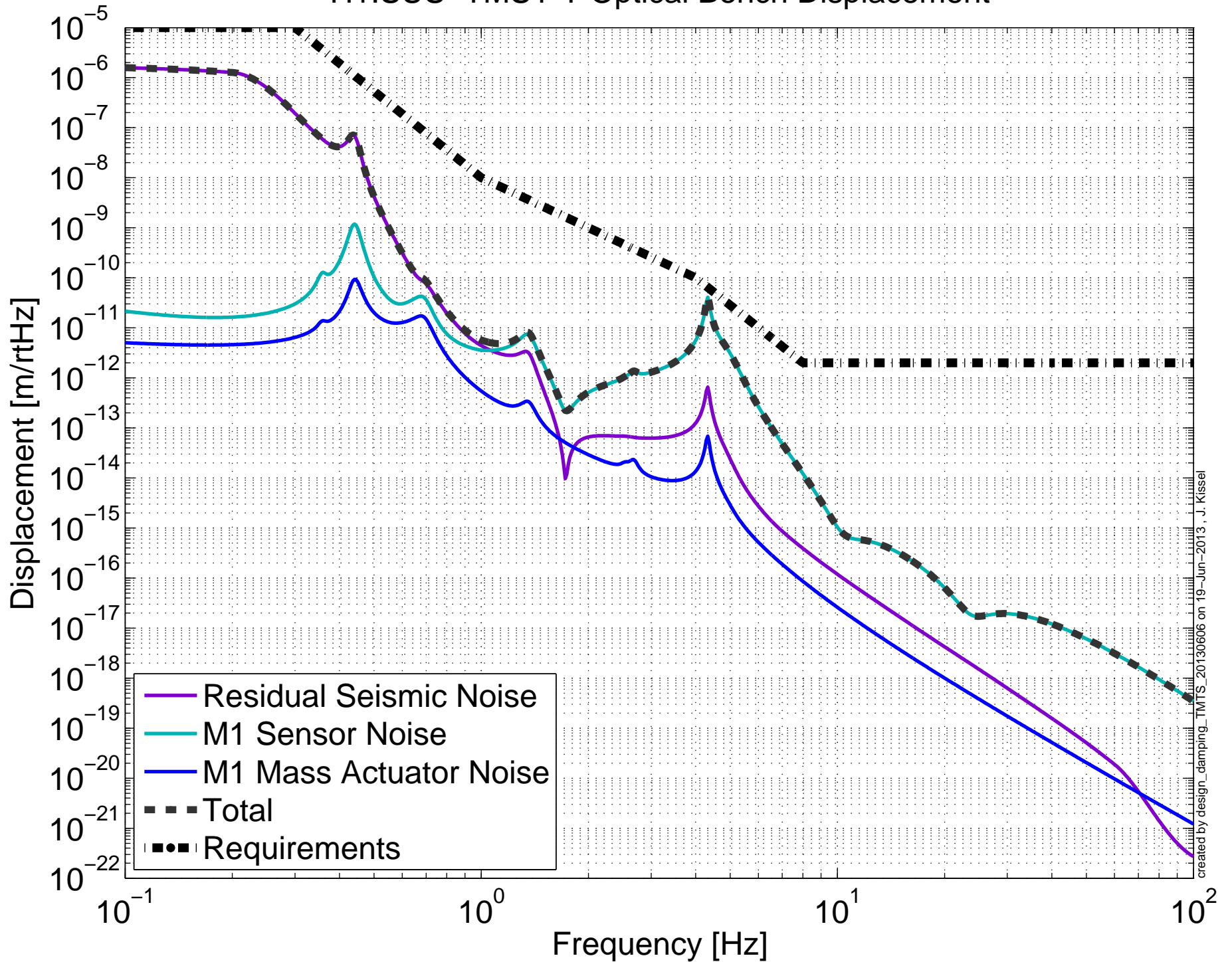


Projected M1 Mass Actuator > Optical Bench Noise Budget H1:SUS-TMSY, T Optical Bench Displacement



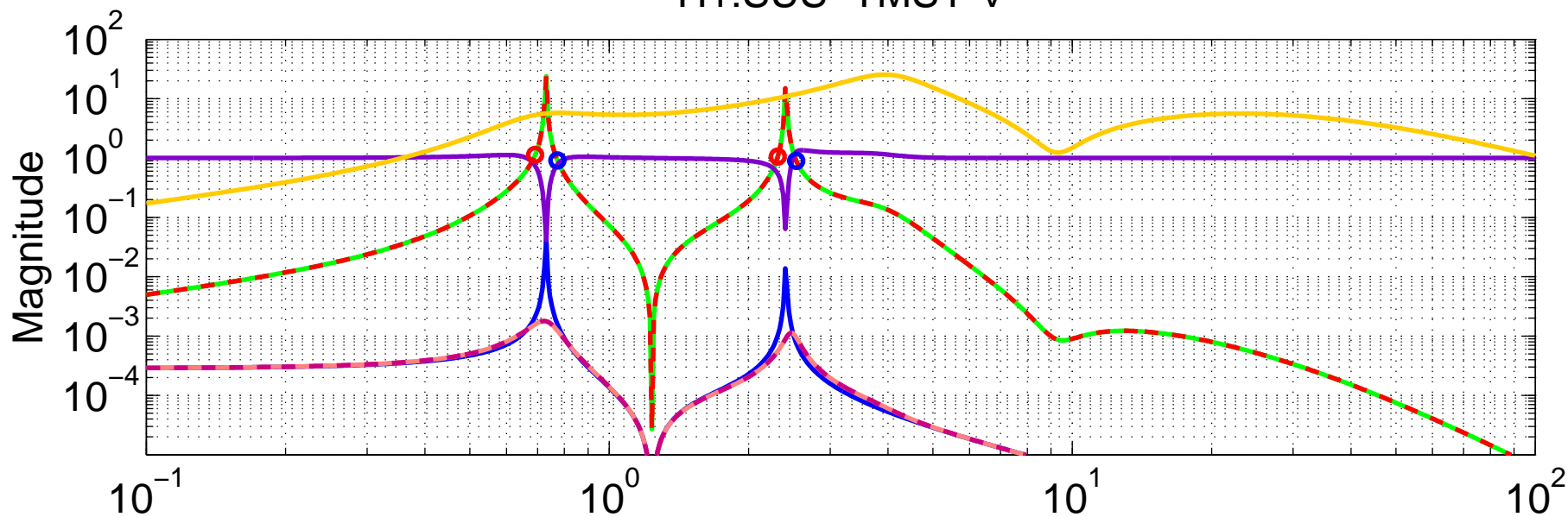
Damping Loop Performance

H1:SUS-TMSY T Optical Bench Displacement

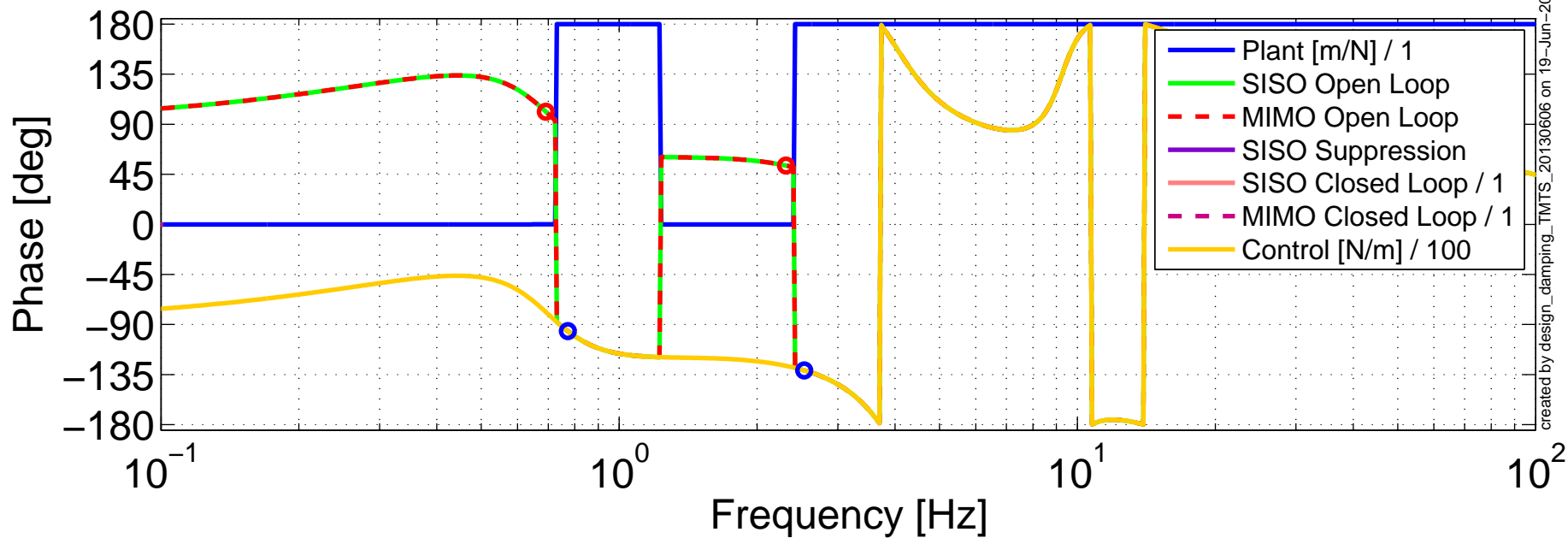


Damping Loop Design

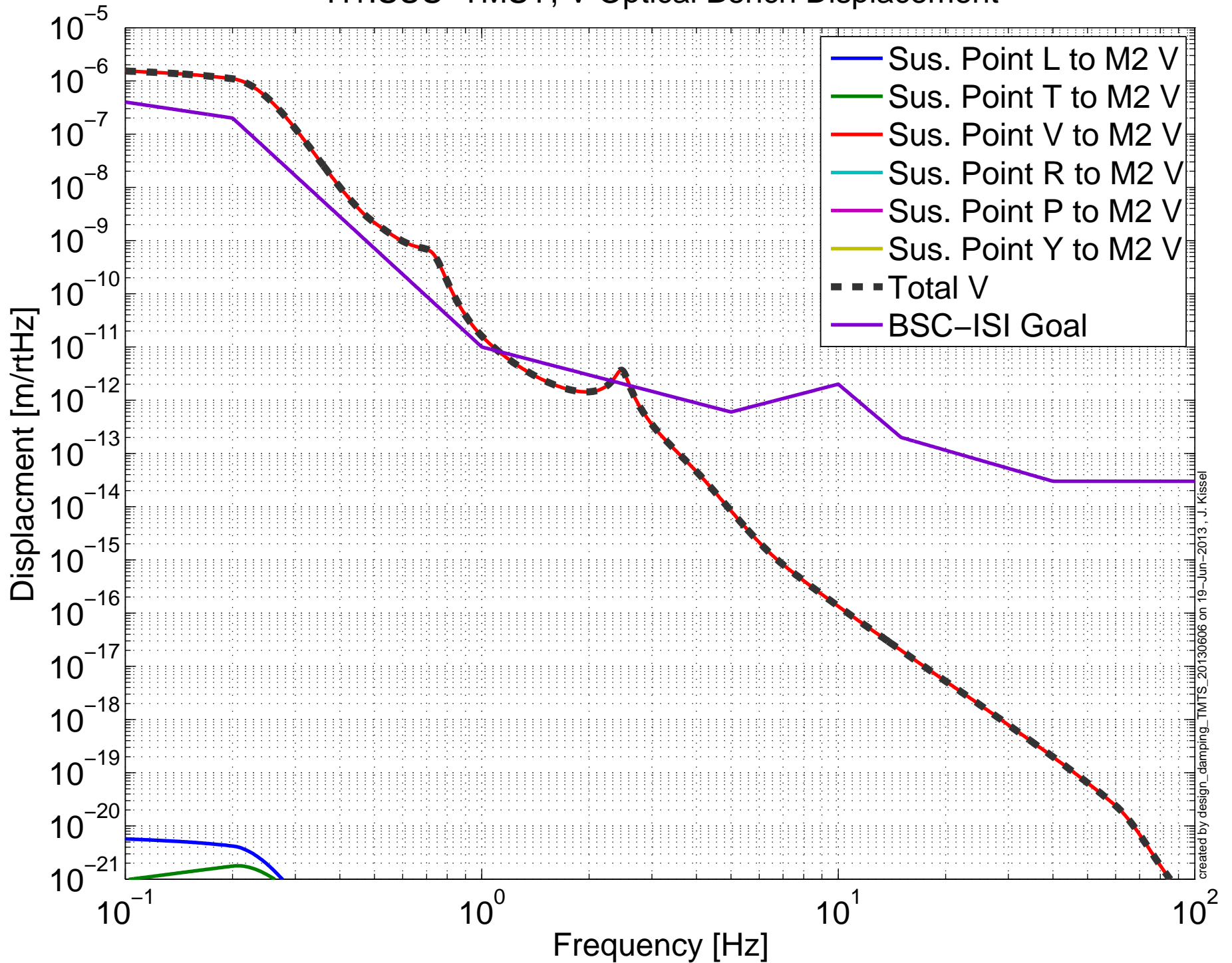
H1:SUS-TMSY V



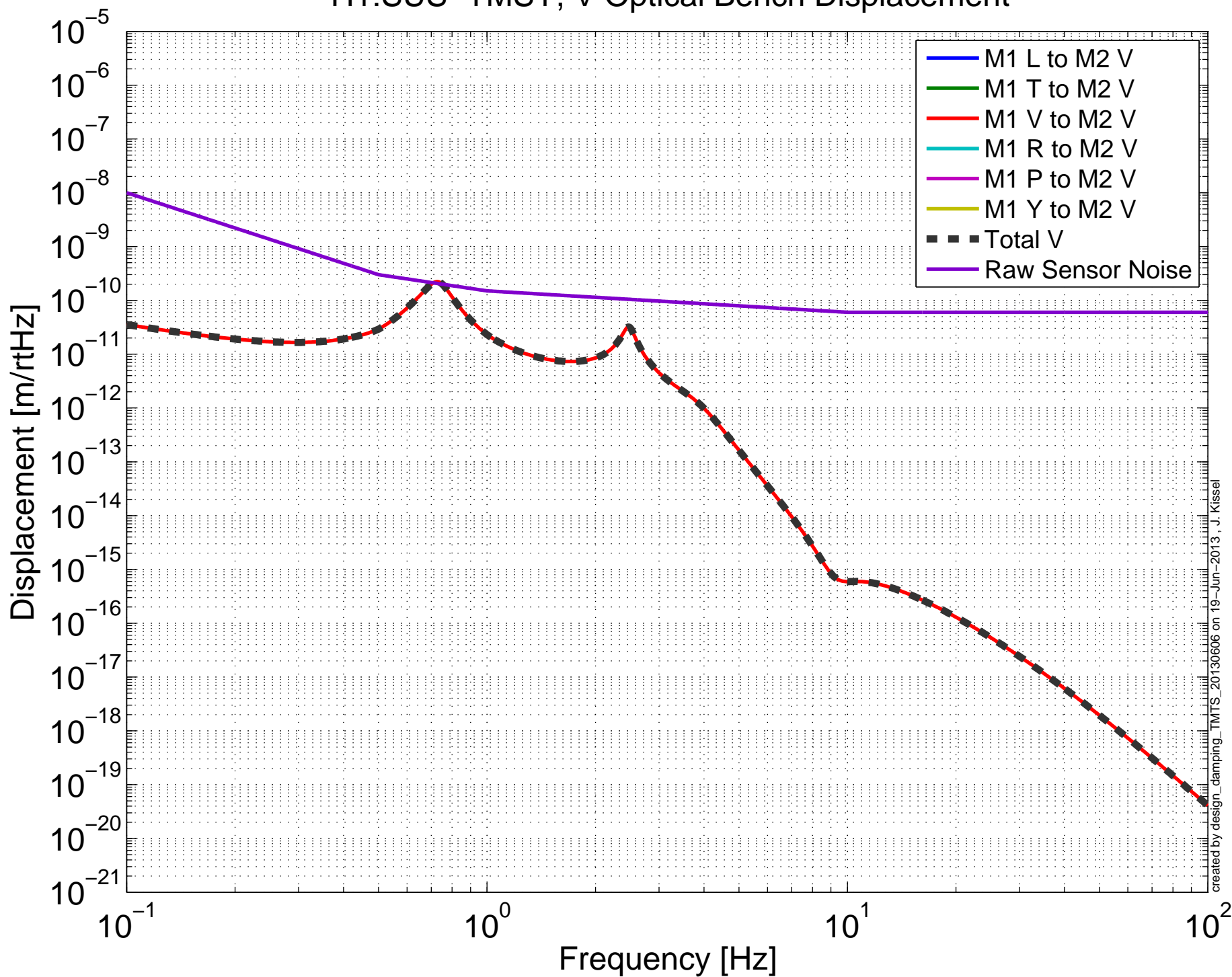
MIMO LUGF Phase Margins (red): [78.8 127] [deg]
MIMO UUGF Phase Margins (blue): [84 48.8] [deg]



Projected Sus. Point > Optical Bench Seismic Noise Budget H1:SUS-TMSY, V Optical Bench Displacement

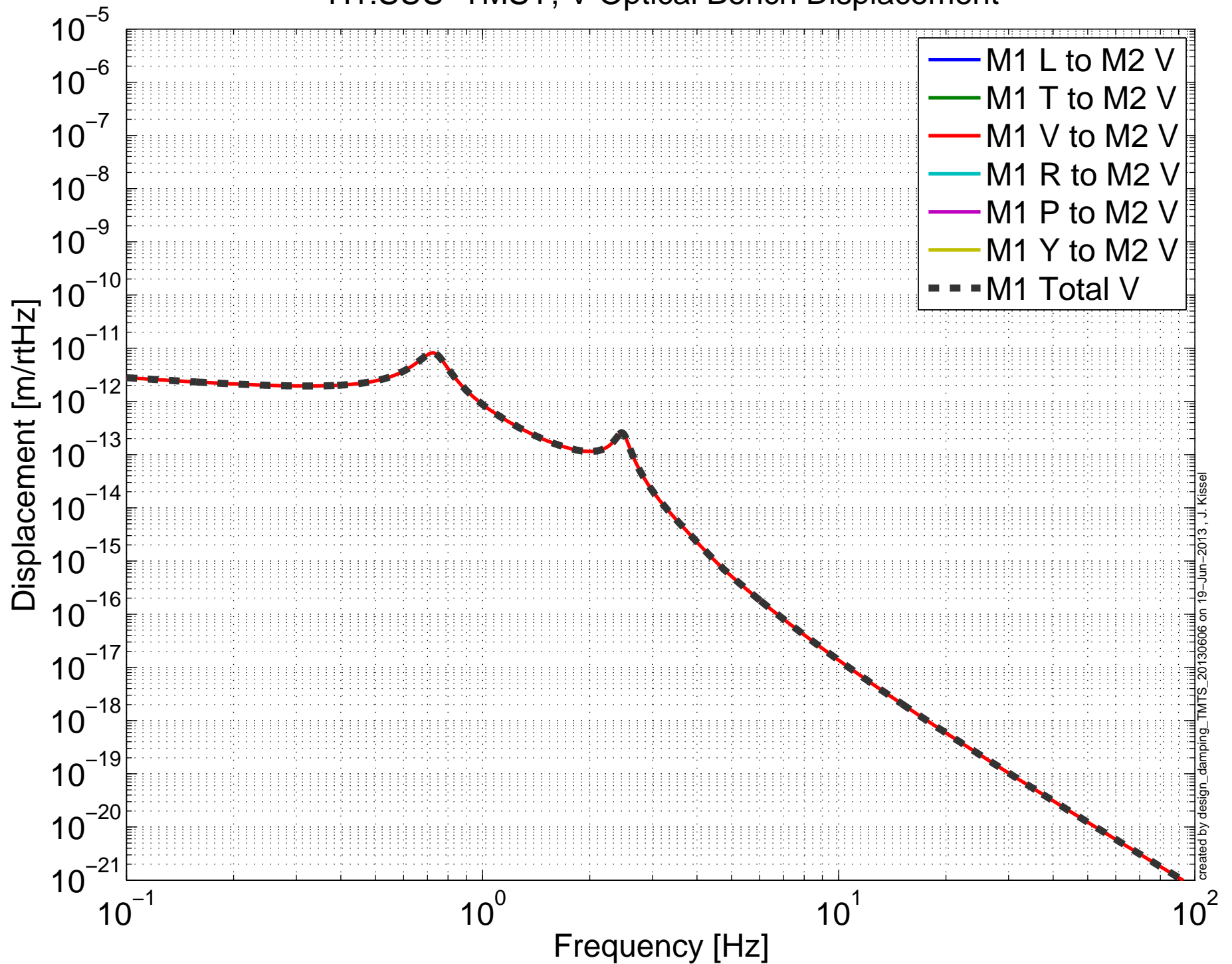


Projected Top Mass Sensor > Optical Bench Noise Budget H1:SUS-TMSY, V Optical Bench Displacement



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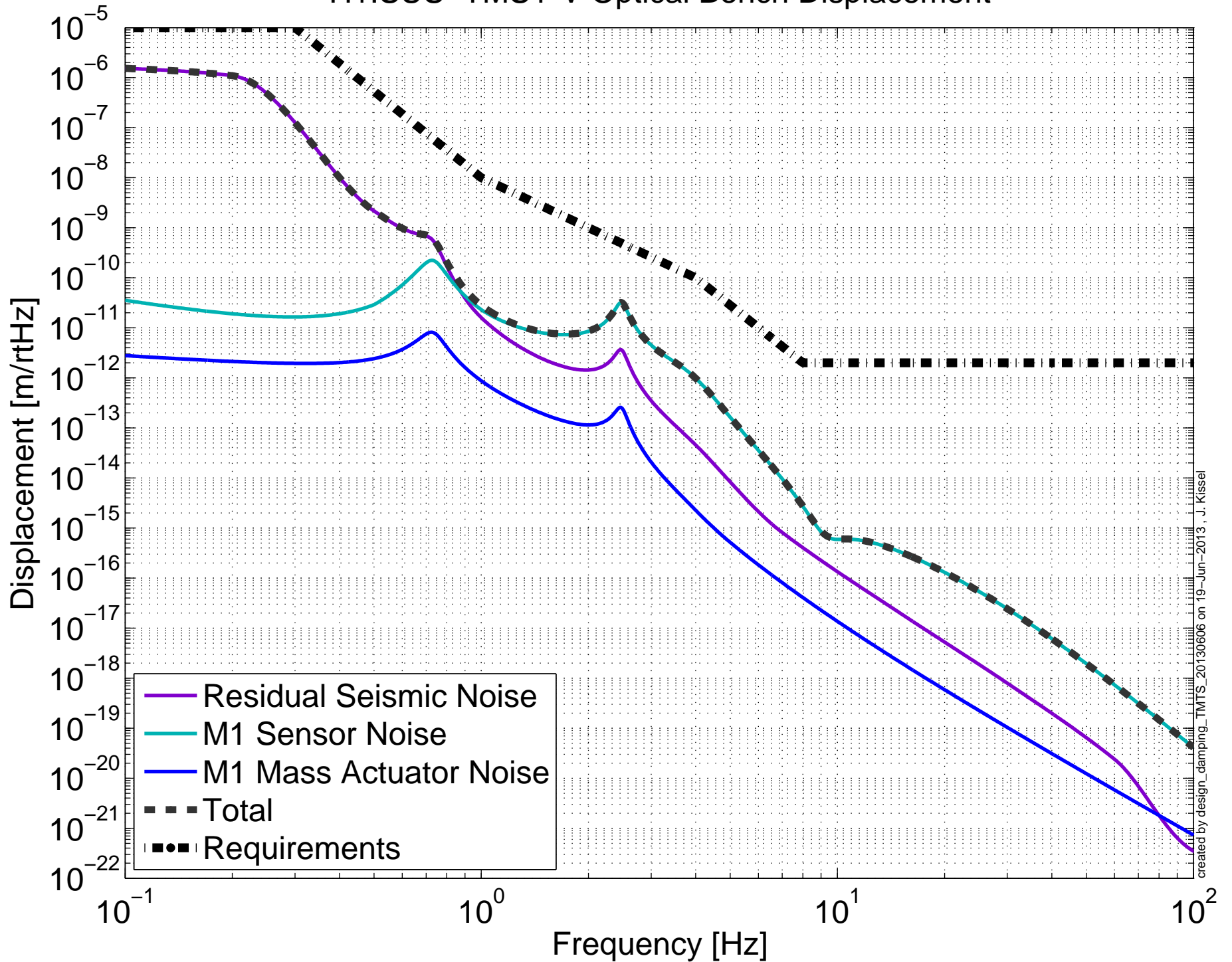
Projected M1 Mass Actuator > Optical Bench Noise Budget H1:SUS-TMSY, V Optical Bench Displacement



created by design_damping_TMTS_20130606 on 19-Jun-2013 - J. Kissel

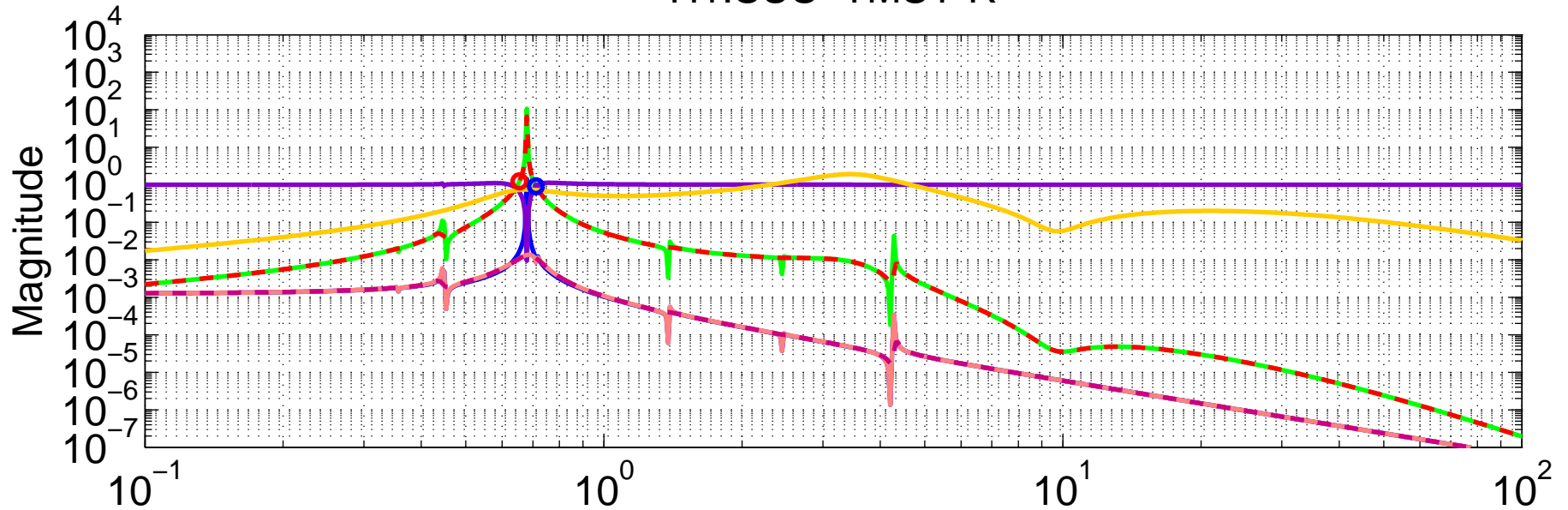
Damping Loop Performance

H1:SUS-TMSY V Optical Bench Displacement

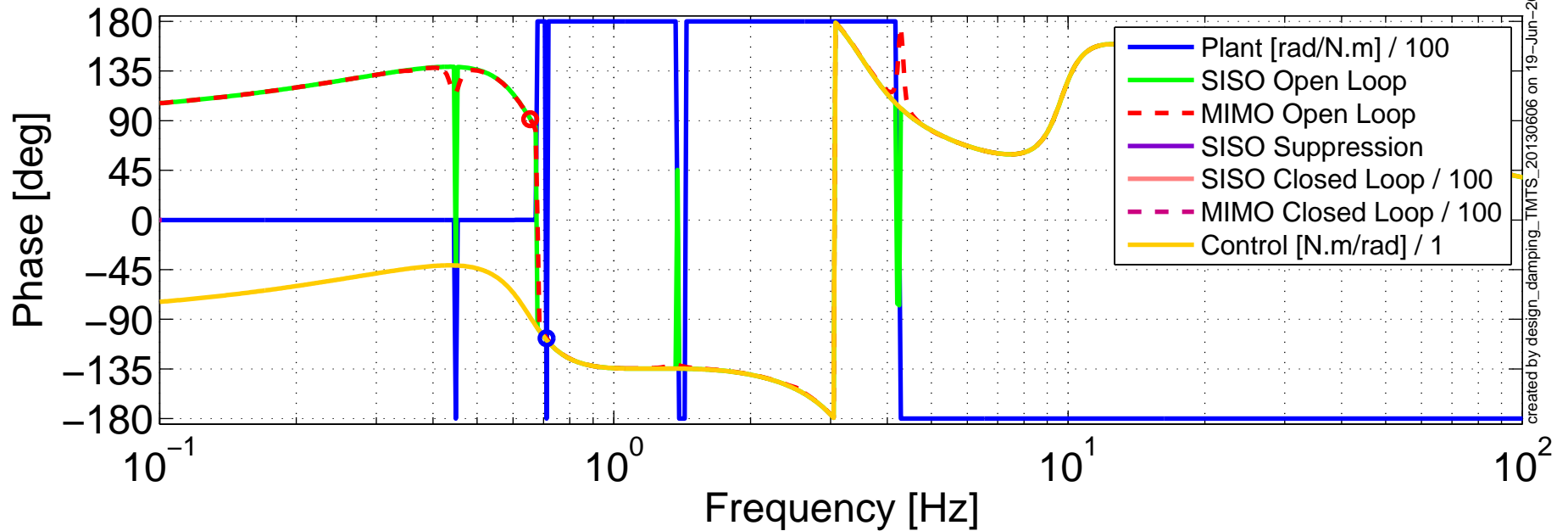


Damping Loop Design

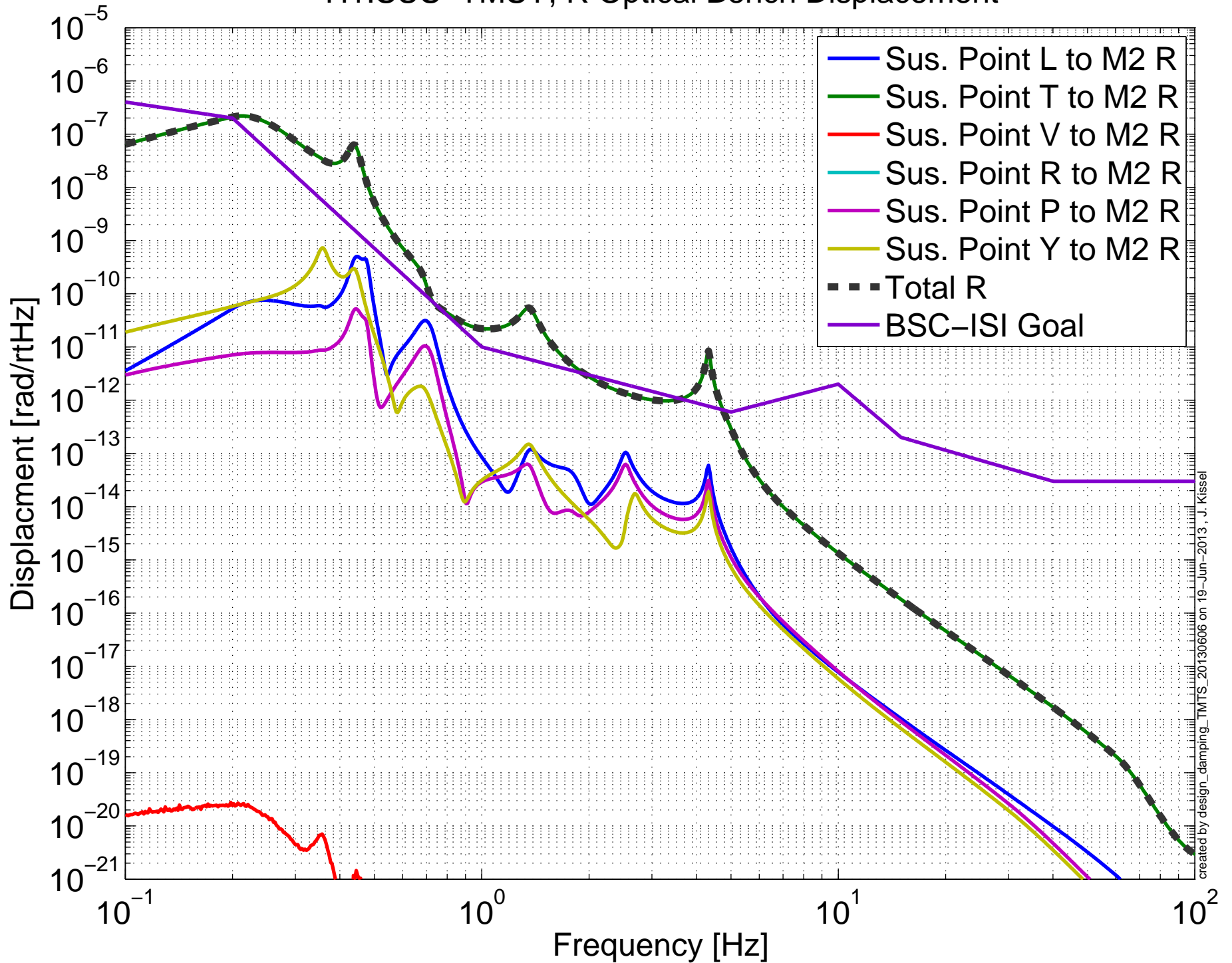
H1:SUS-TMSY R



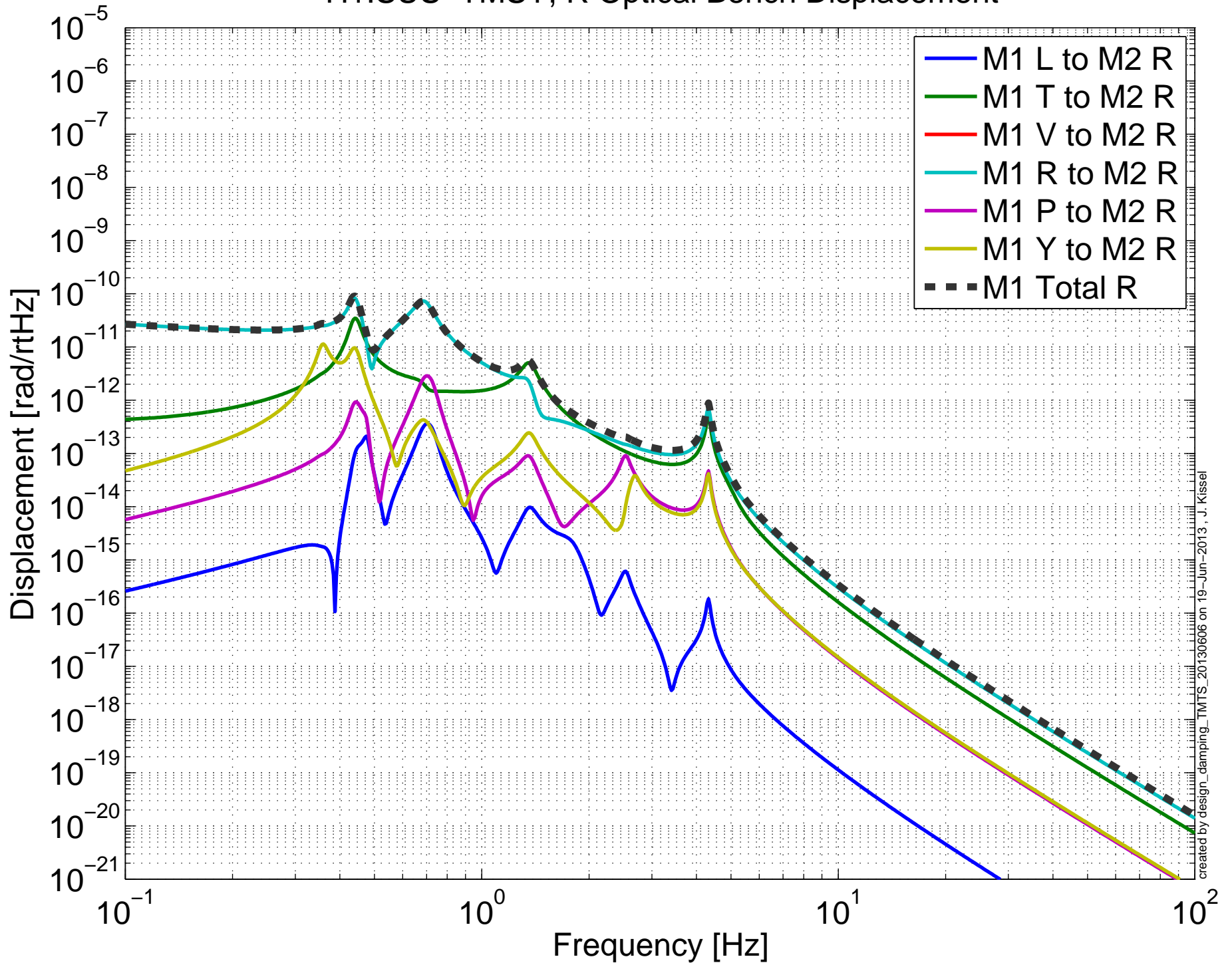
MIMO LUGF Phase Margins (red): [88.8] [deg]
MIMO UUGF Phase Margins (blue): [72.9] [deg]



Projected Sus. Point > Optical Bench Seismic Noise Budget H1:SUS-TMSY, R Optical Bench Displacement

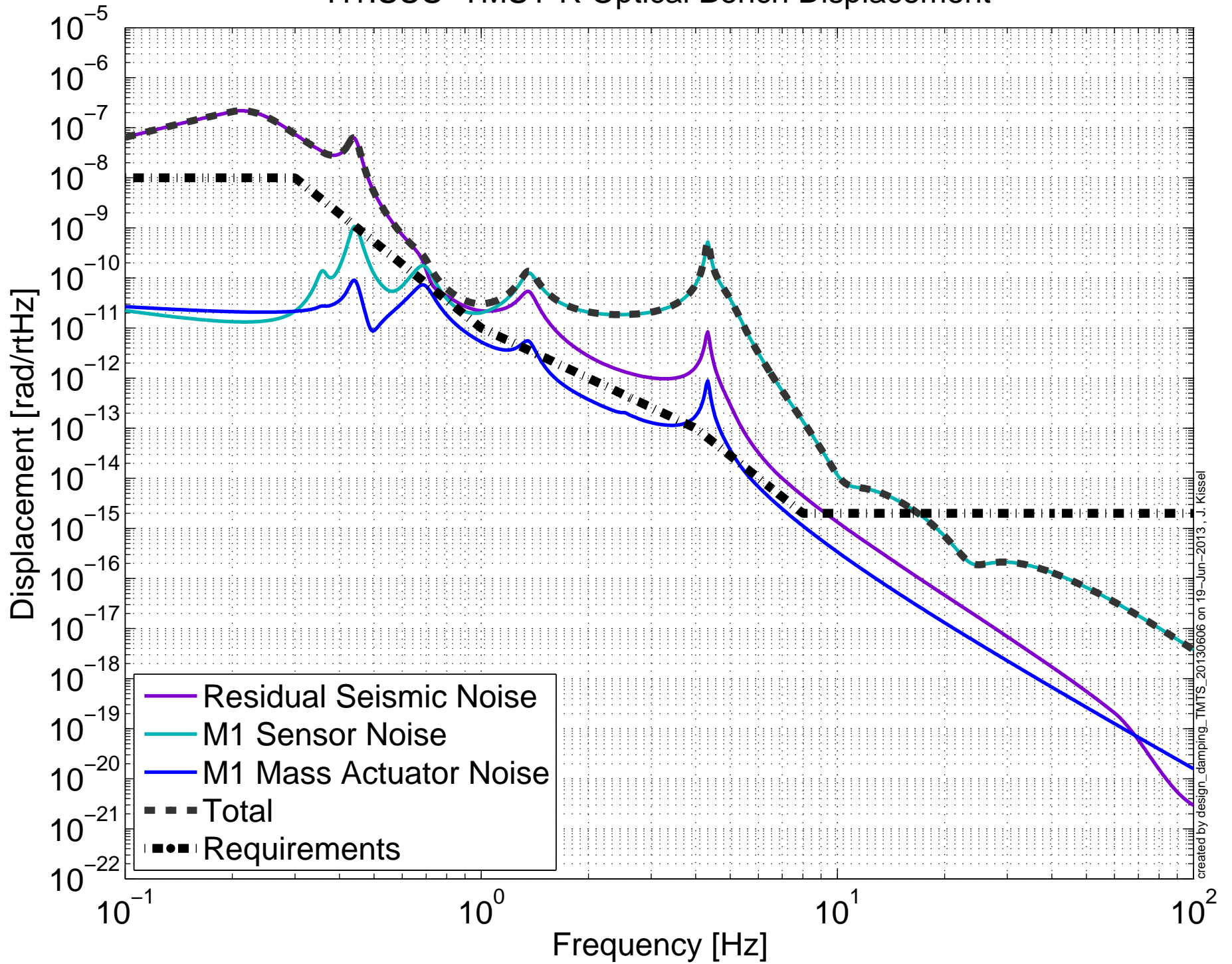


Projected M1 Mass Actuator > Optical Bench Noise Budget H1:SUS-TMSY, R Optical Bench Displacement

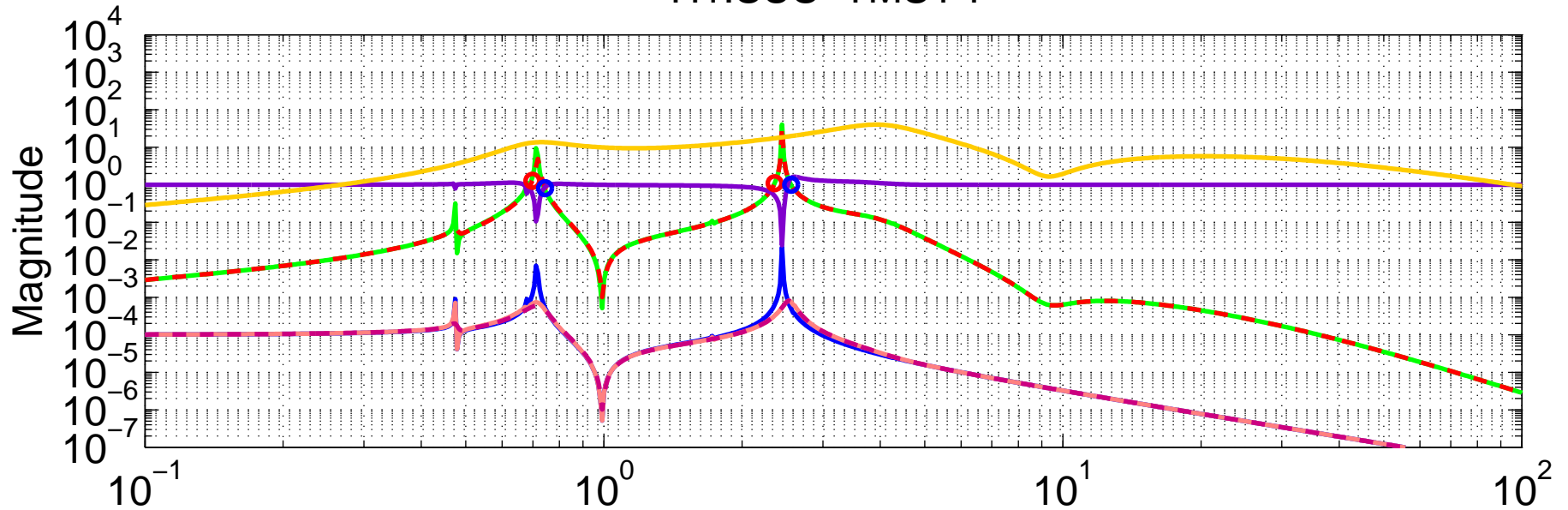


Damping Loop Performance

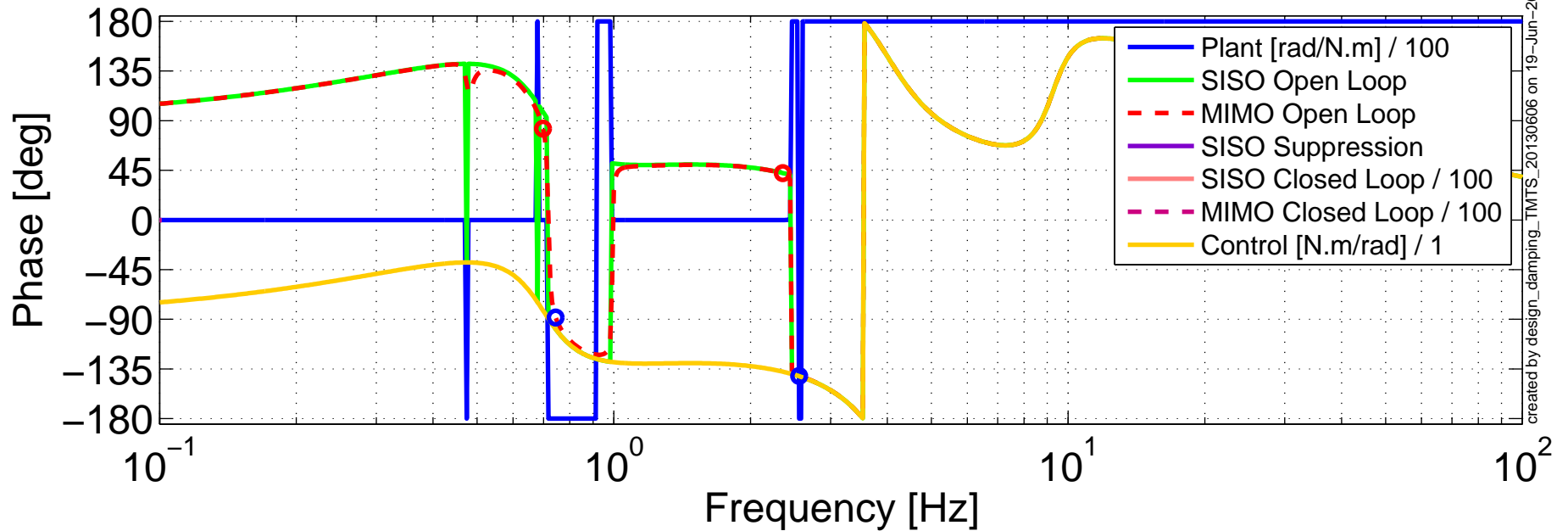
H1:SUS-TMSY R Optical Bench Displacement



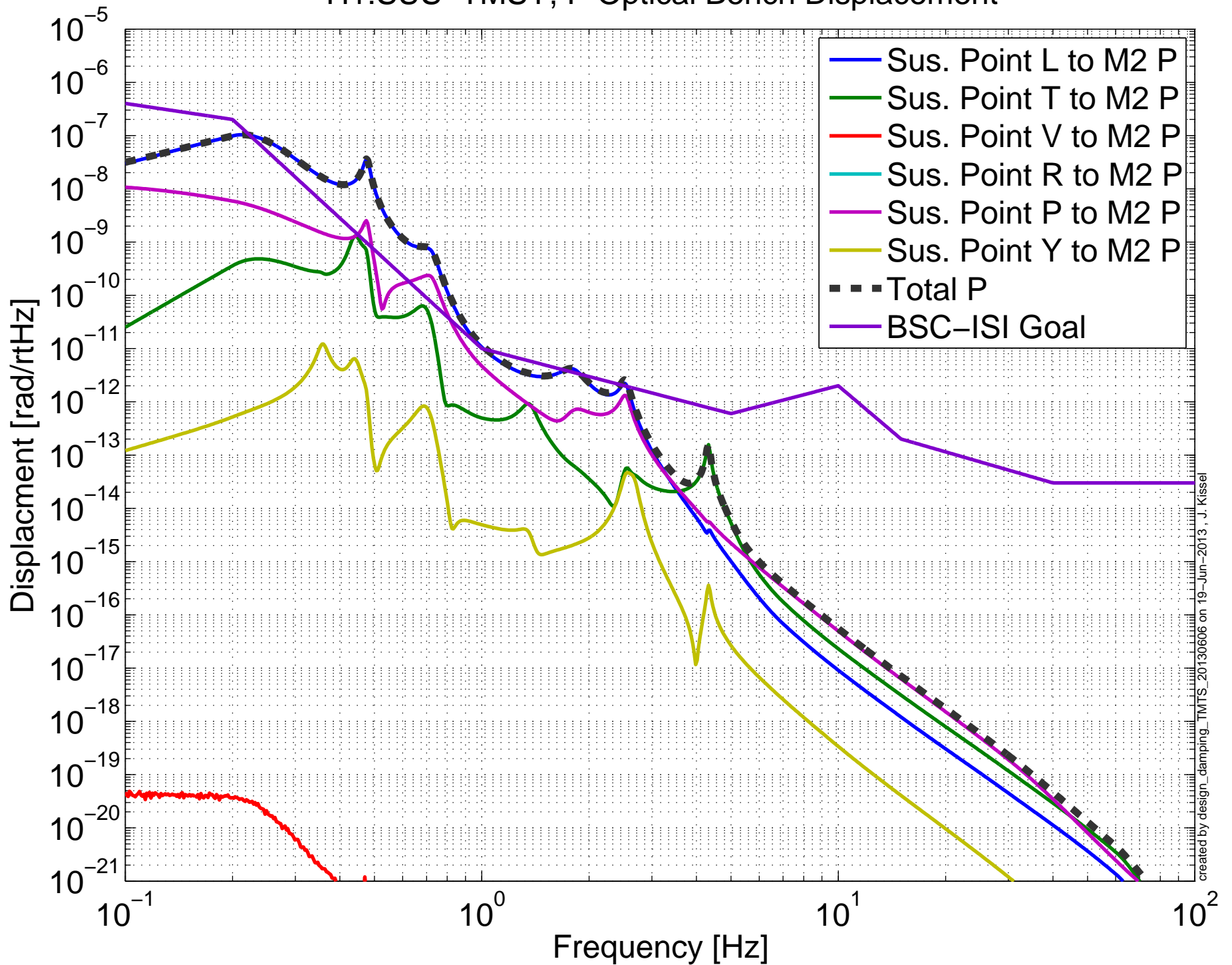
Damping Loop Design H1:SUS-TMSY P



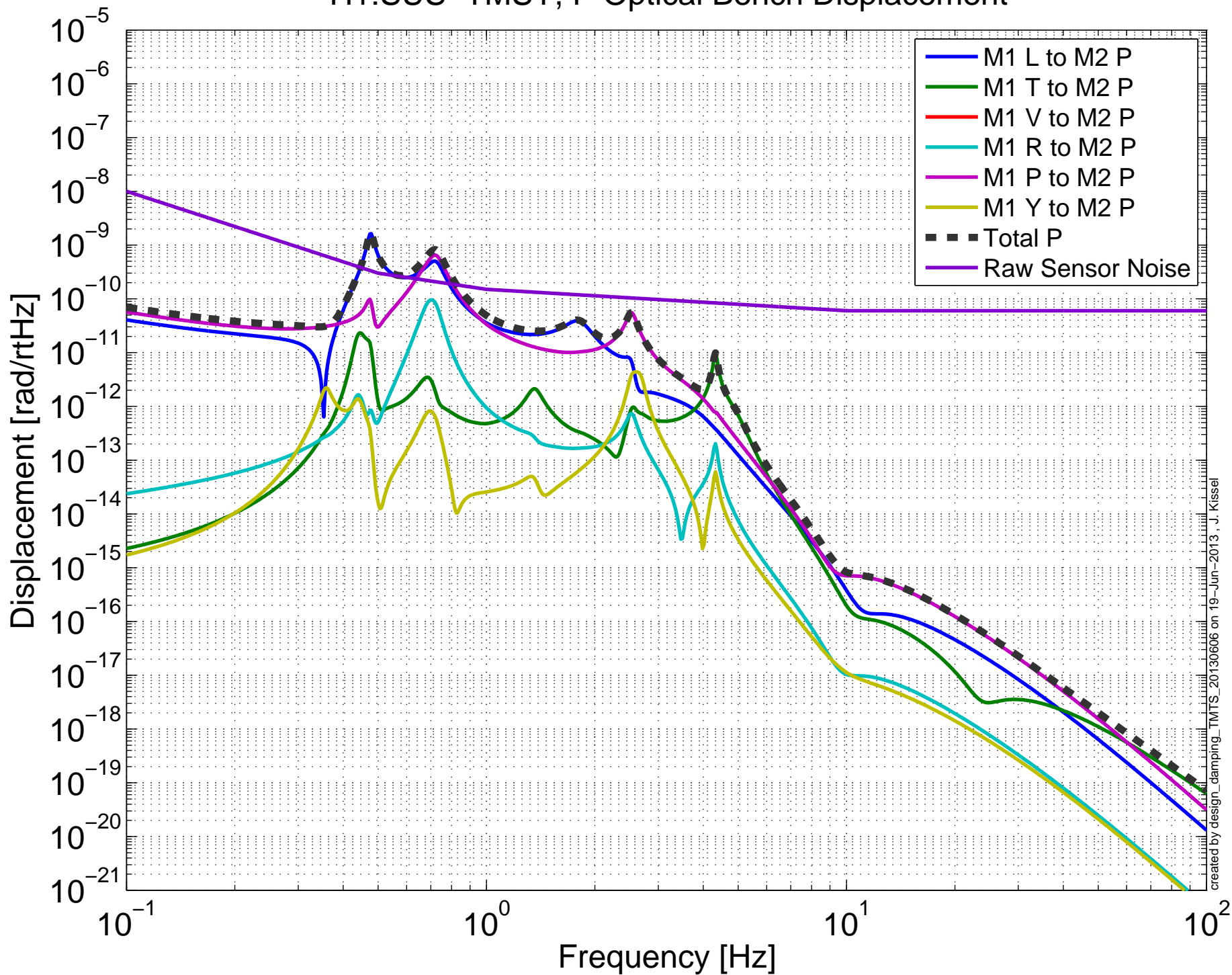
MIMO LUGF Phase Margins (red): [97.2 138] [deg]
MIMO UUGF Phase Margins (blue): [91.5 38.6] [deg]



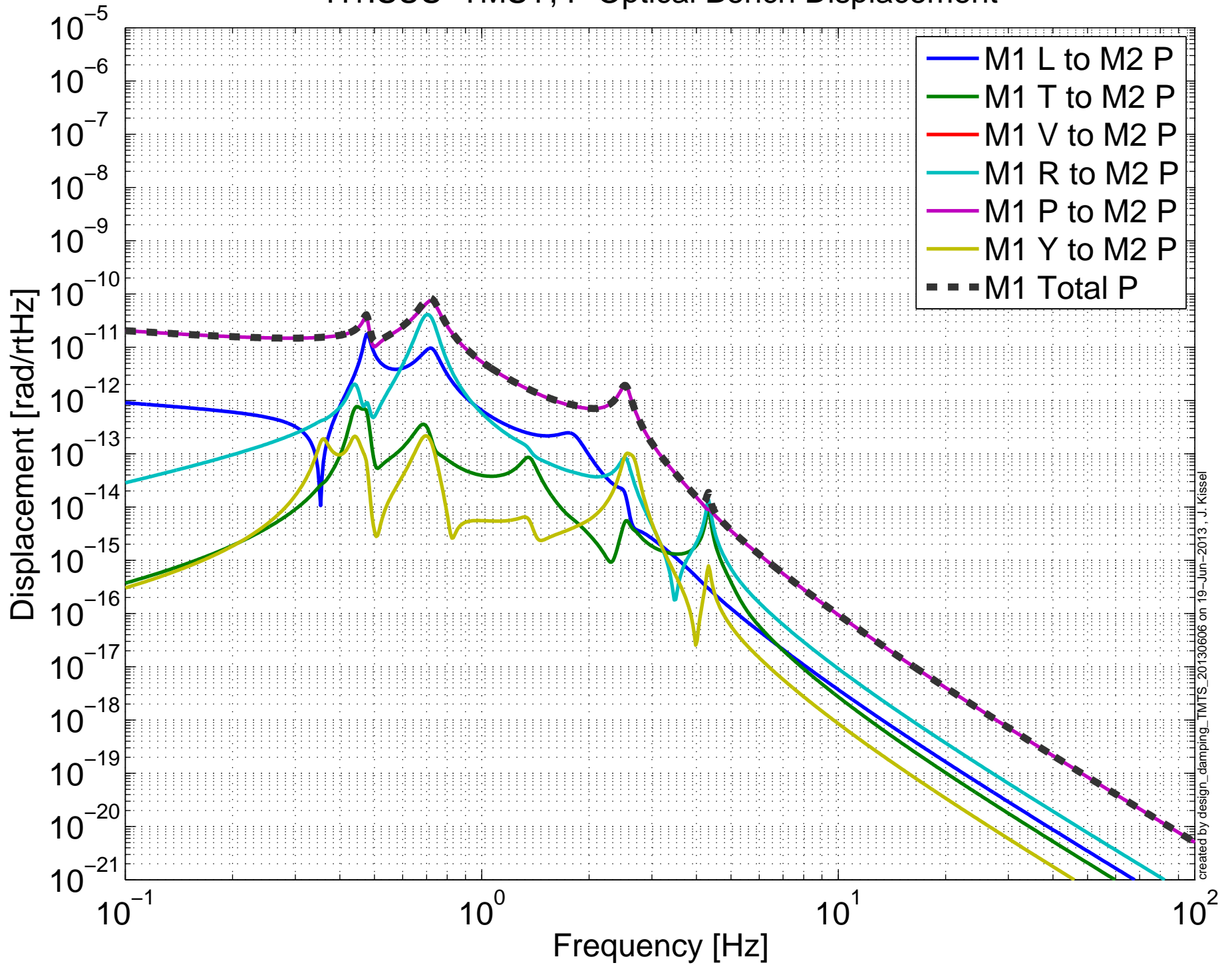
Projected Sus. Point > Optical Bench Seismic Noise Budget H1:SUS-TMSY, P Optical Bench Displacement



Projected Top Mass Sensor > Optical Bench Noise Budget H1:SUS-TMSY, P Optical Bench Displacement

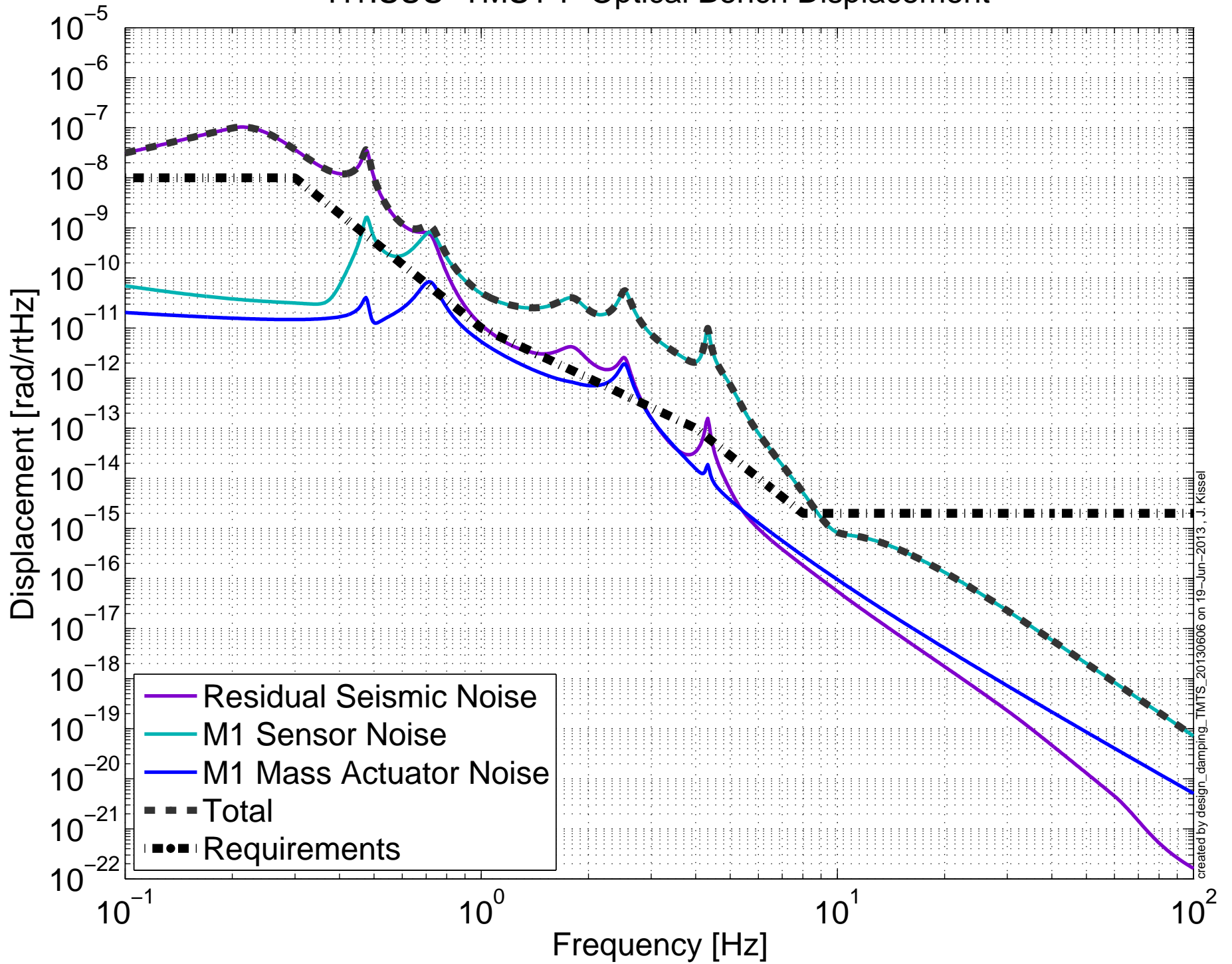


Projected M1 Mass Actuator > Optical Bench Noise Budget H1:SUS-TMSY, P Optical Bench Displacement

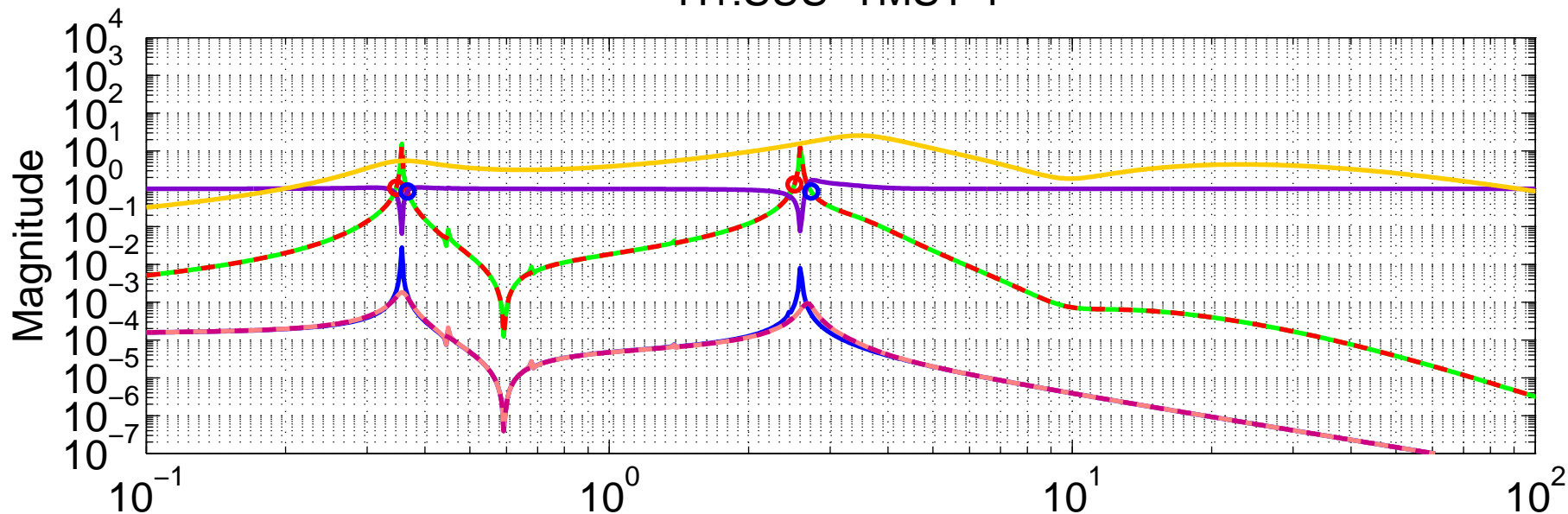


Damping Loop Performance

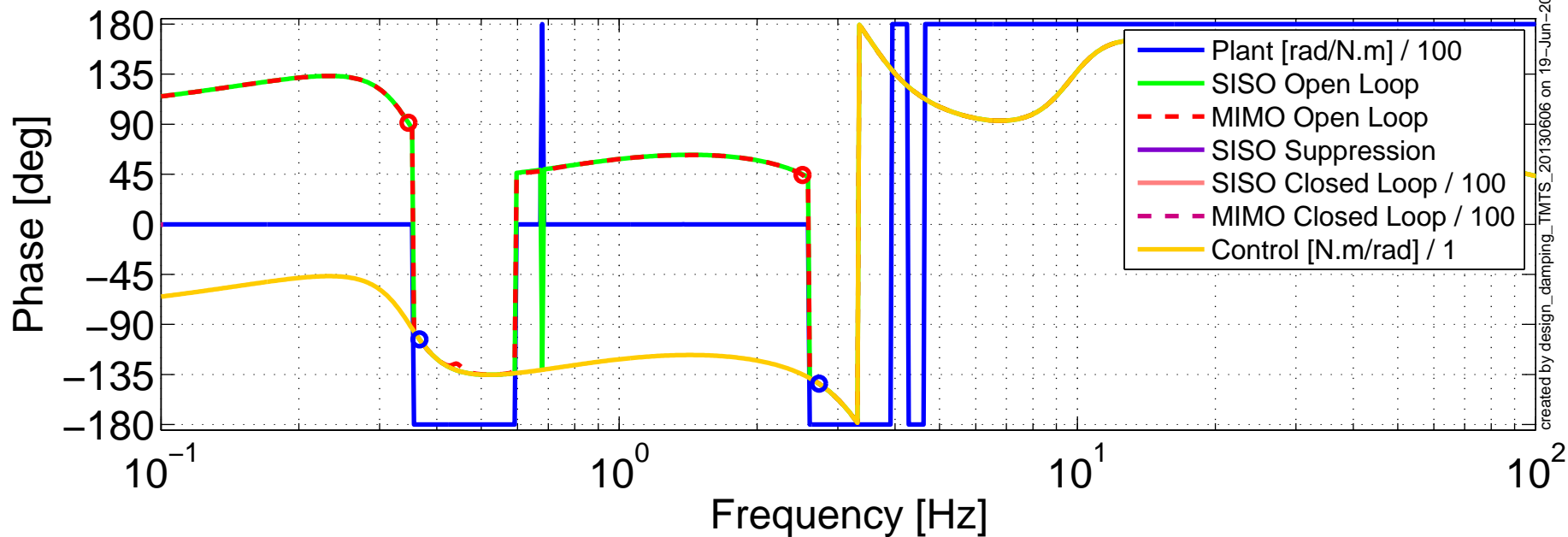
H1:SUS-TMSY P Optical Bench Displacement



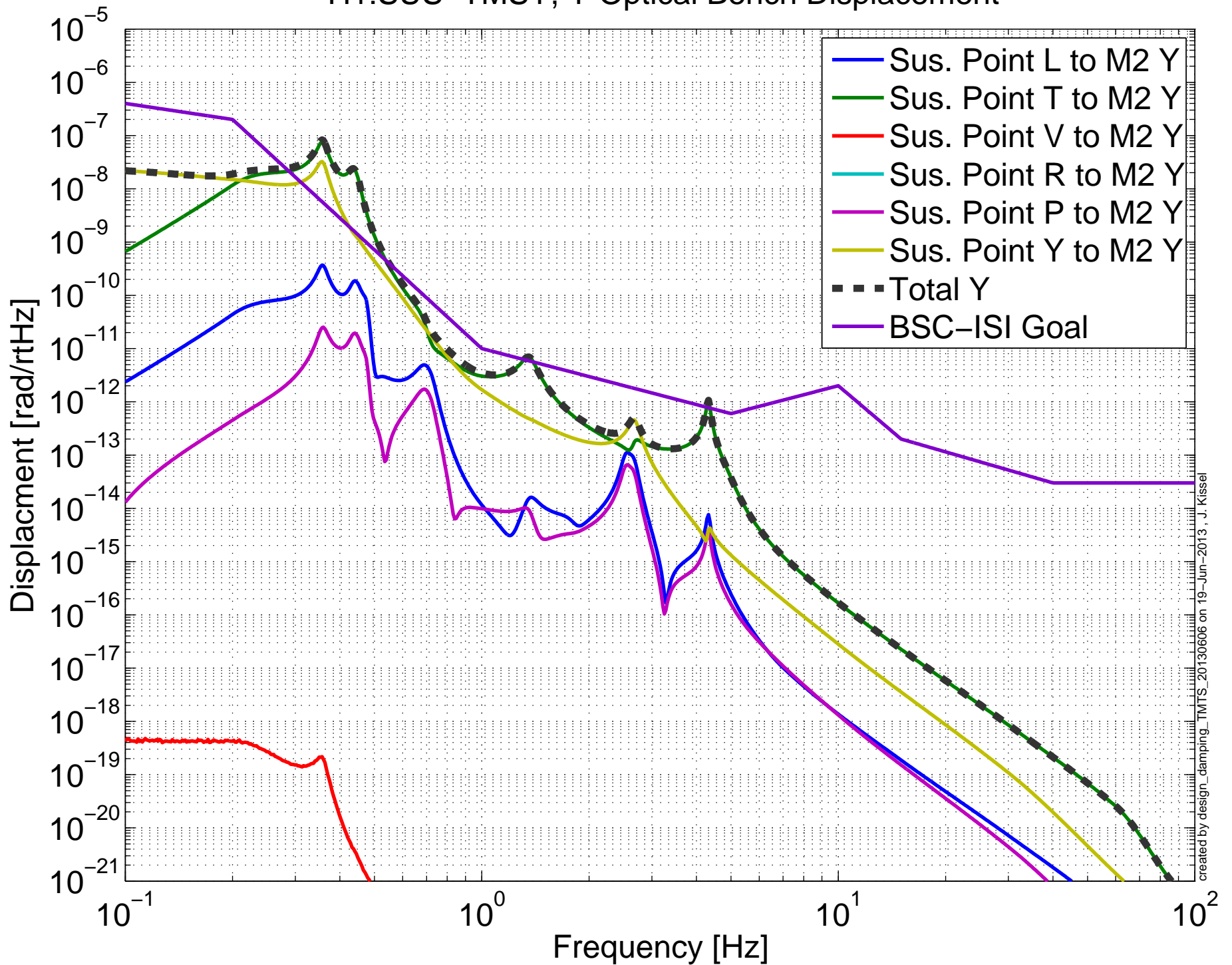
Damping Loop Design H1:SUS-TMSY Y



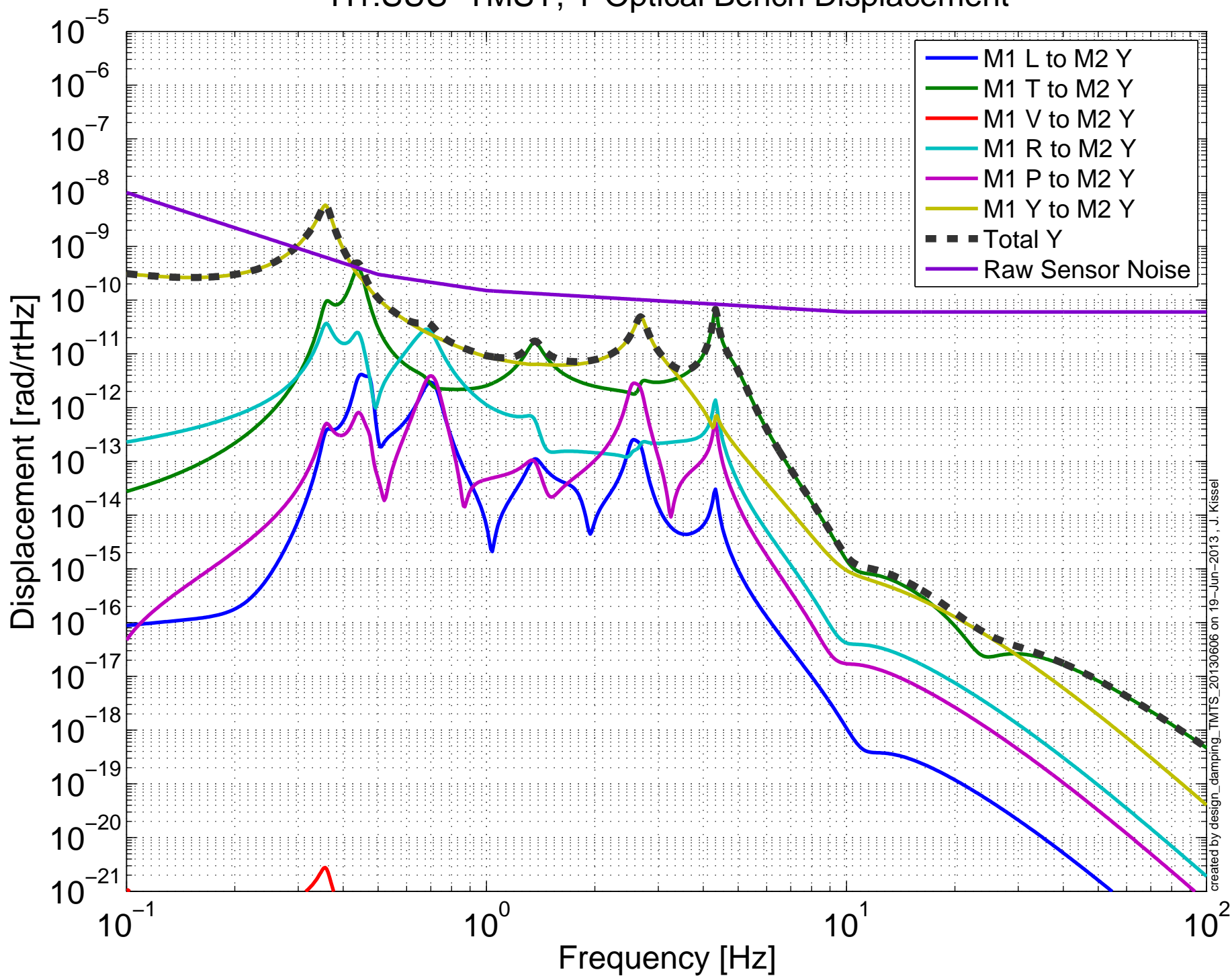
MIMO LUGF Phase Margins (red): [88.7 136] [deg]
MIMO UUGF Phase Margins (blue): [76.6 36.8] [deg]



Projected Sus. Point > Optical Bench Seismic Noise Budget H1:SUS-TMSY, Y Optical Bench Displacement

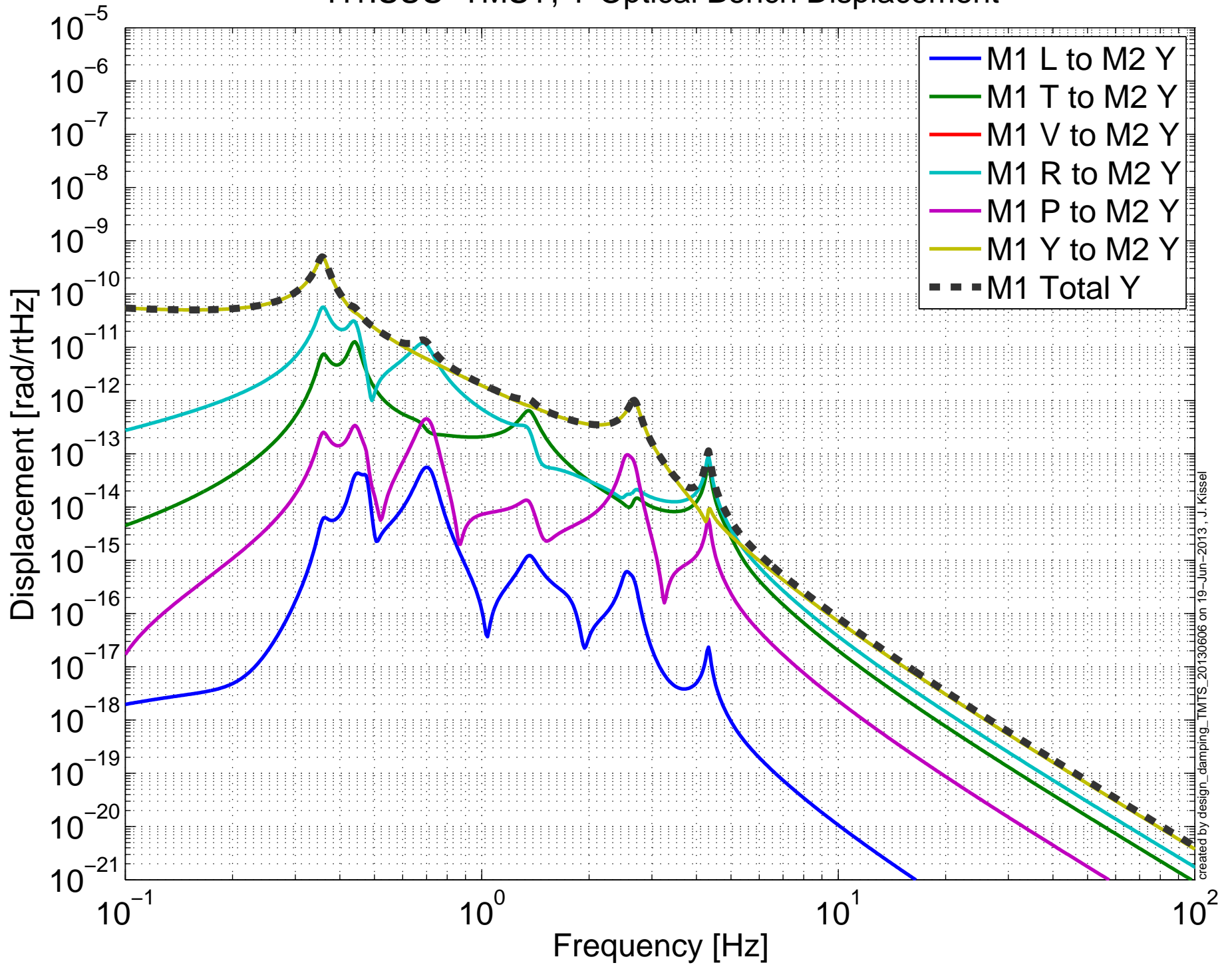


Projected Top Mass Sensor > Optical Bench Noise Budget H1:SUS-TMSY, Y Optical Bench Displacement



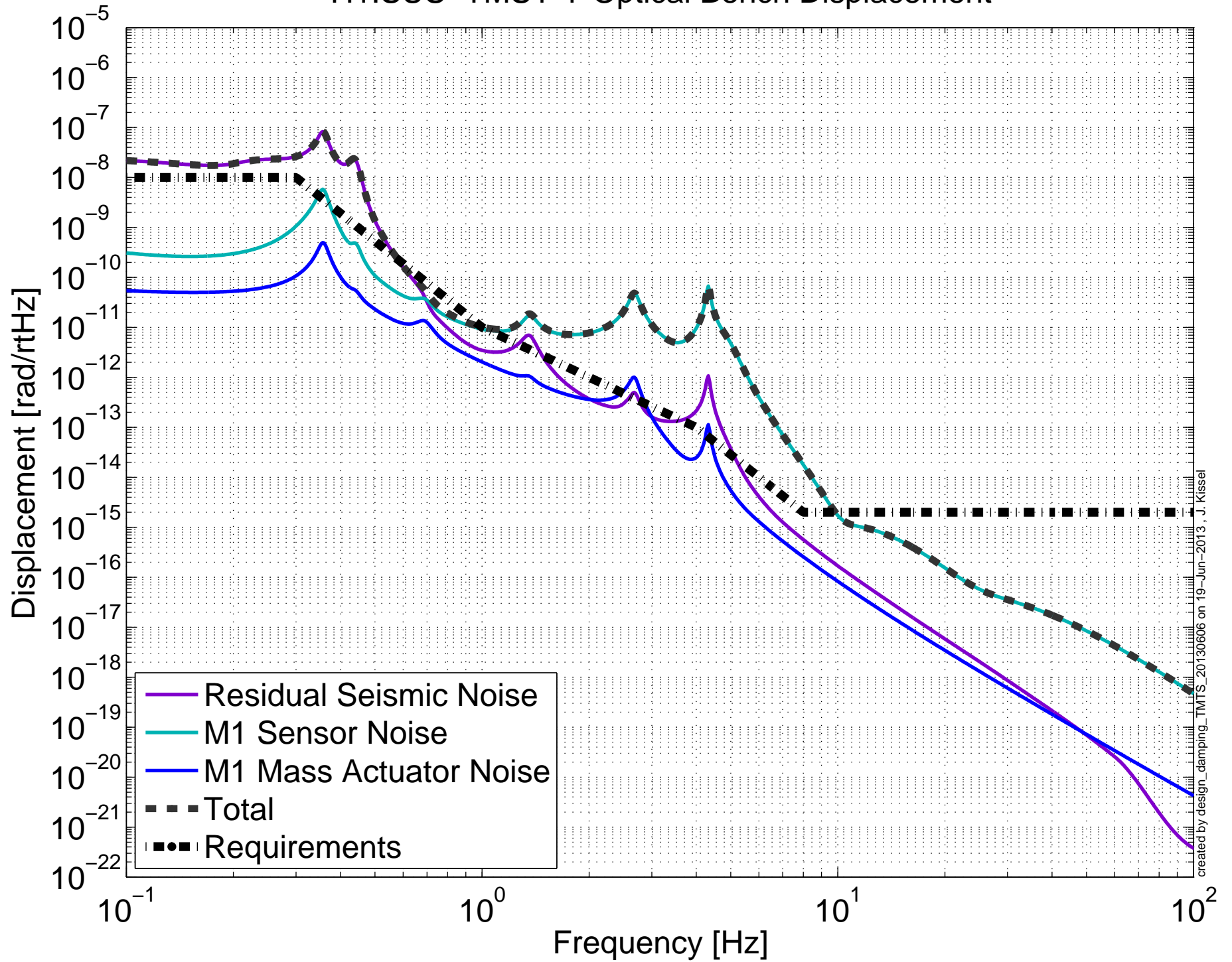
created by design_damping_TMFS_20130606 on 19-Jun-2013 - J. Kissel

Projected M1 Mass Actuator > Optical Bench Noise Budget H1:SUS-TMSY, Y Optical Bench Displacement

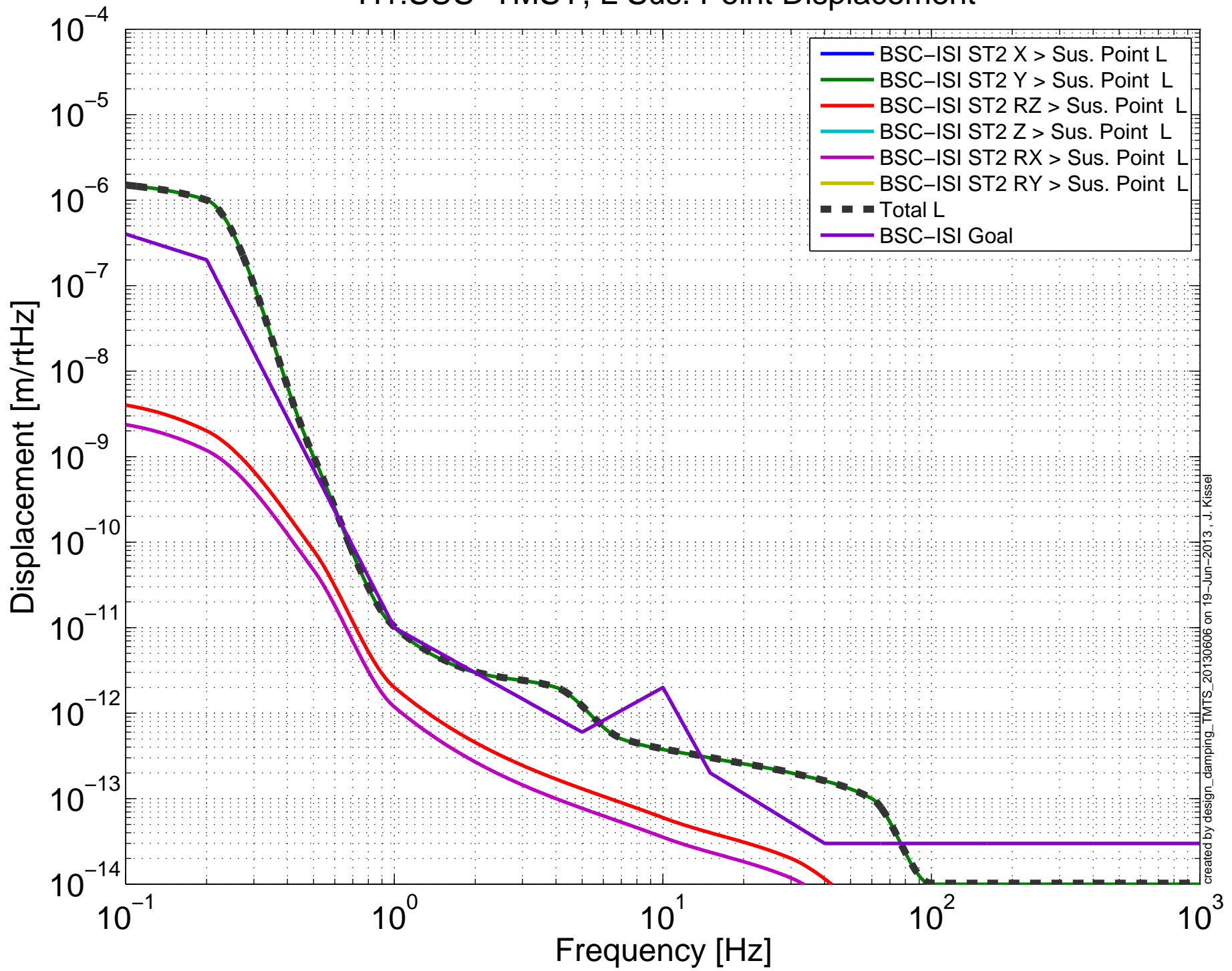


Damping Loop Performance

H1:SUS-TMSY Y Optical Bench Displacement

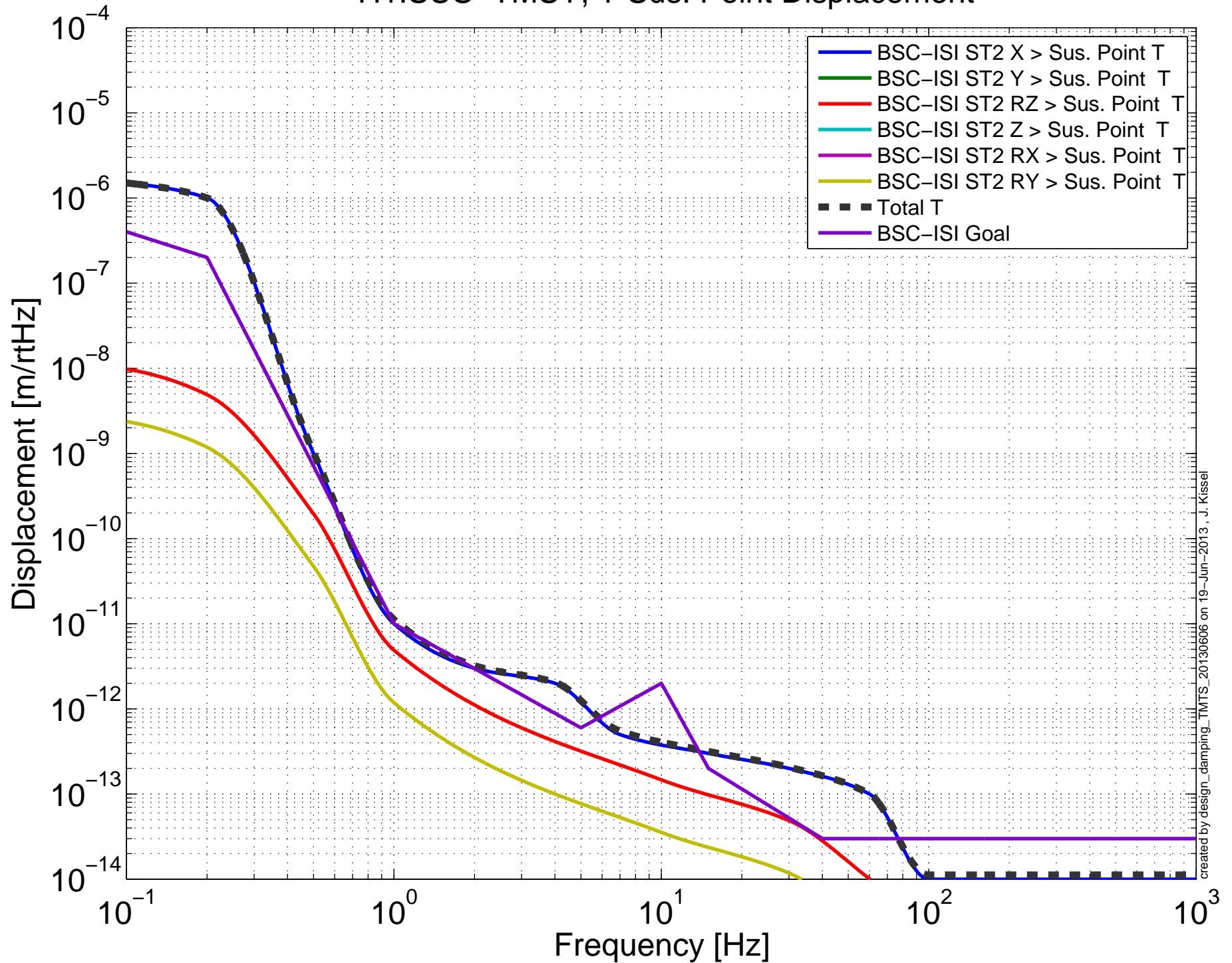


Projected ISI Seismic Noise Budget H1:SUS-TMSY, L Sus. Point Displacement



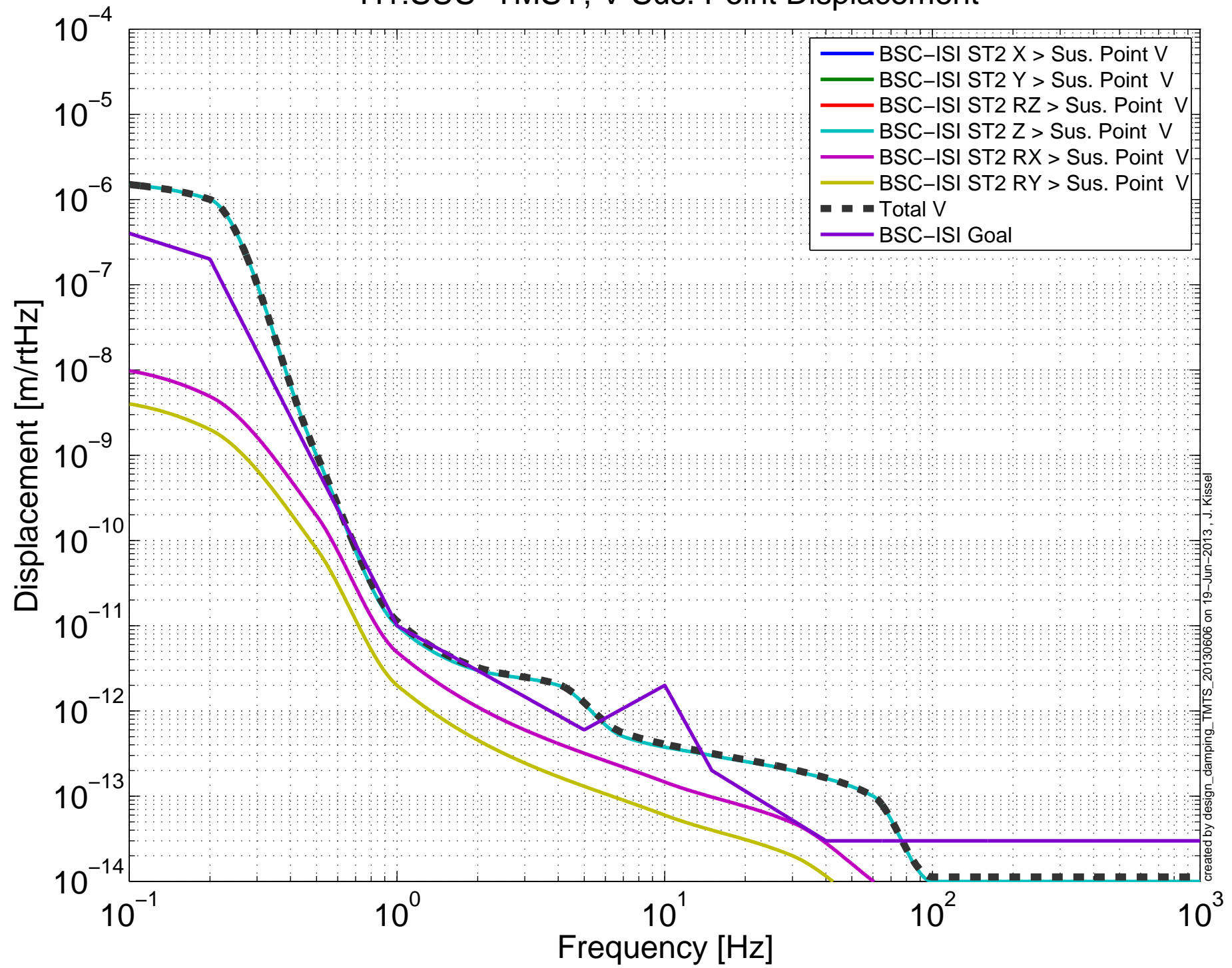
created by design_damping_TMITS_20130606 on 19-Jun-2013, J. Kissel

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



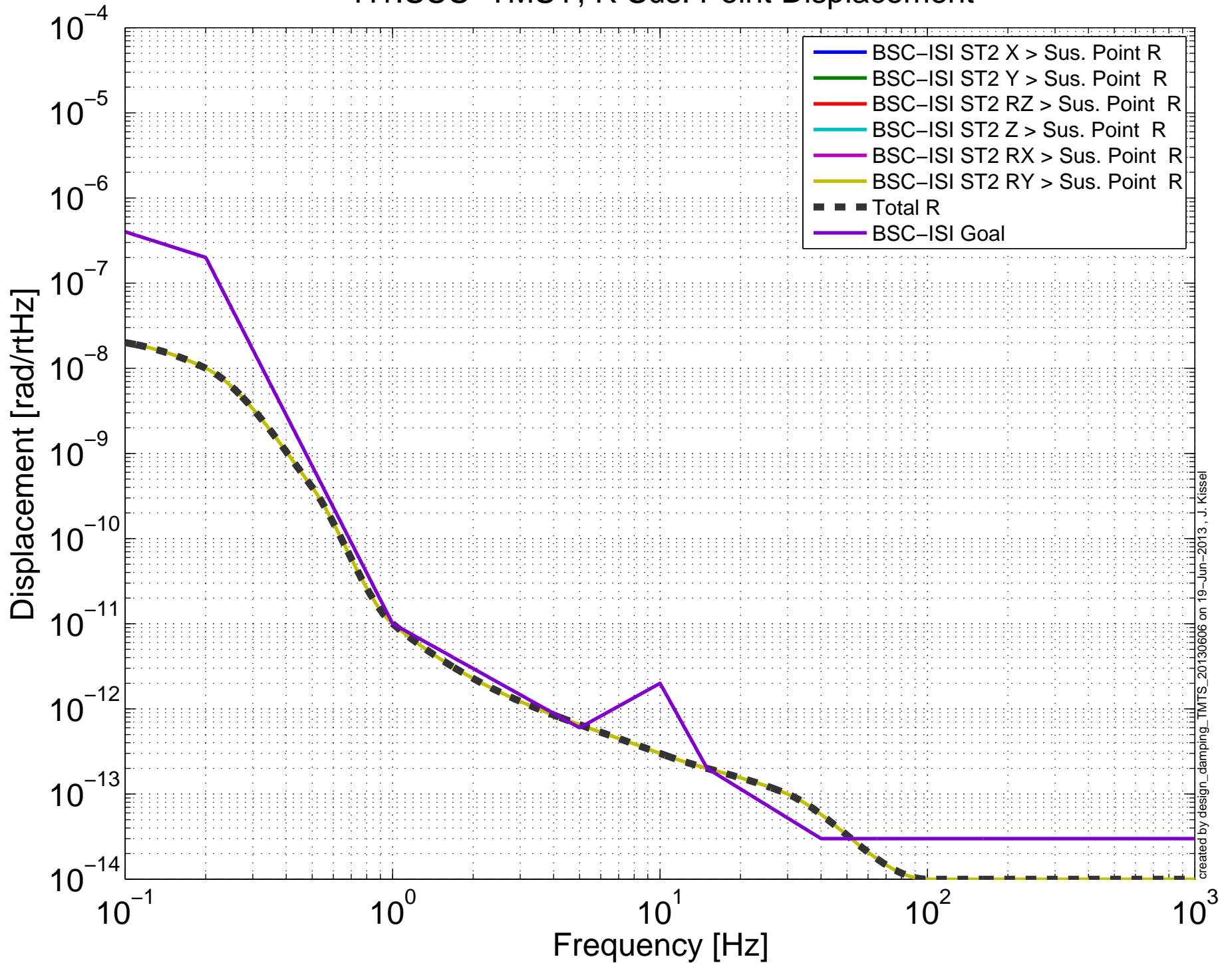
created by design_damping_TMITS_20130606 on 19-Jun-2013, J. Kissel

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



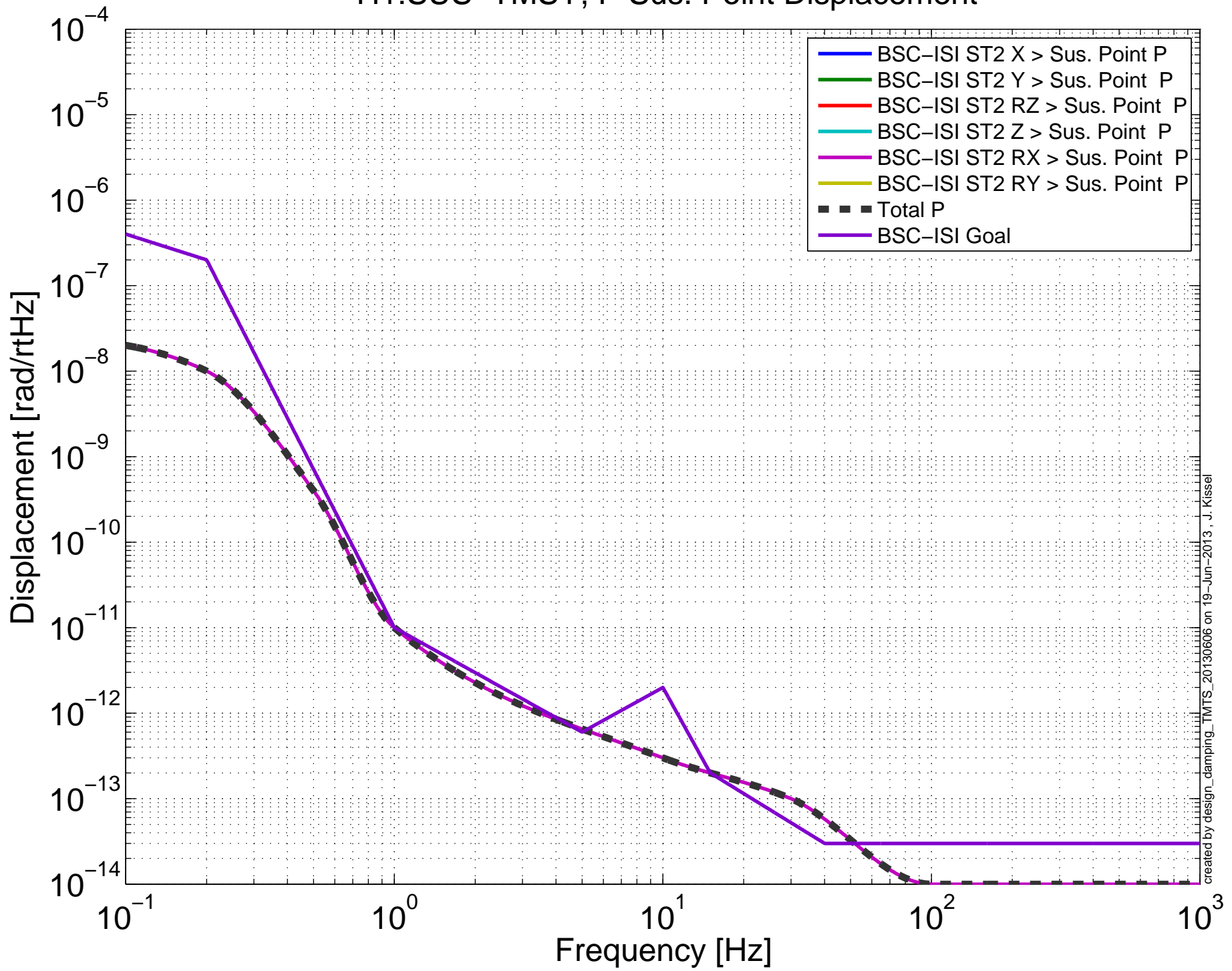
created by design_damping_TMITS_20130606 on 19-Jun-2013, J. Kissel

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



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



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

