Leak-optimized slow-LQG-IC HPF; gain_fast=0.22, fast LQG noise=0.0, f_cutoff=25.0 2.0 This controller atm_error_at_f_X ncp_error_at_f_X (1.4, 0.4) integrator Reference ro ncp_error_at_f_Y X error (rad) noise_error_at_f_X 1.5 cost cutoff freq. 1.0 0.5 $10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2}$ 0.60.81.0 1.14.62.0 4.0 6.0 NCP ro (m) Frequency (Hz) X = 1.016 radY = 1.264 rad10² 10² Open-loop atm 10⁰ 10⁰ Open-loop NCP Power (rad²/Hz) 10³ Open-loop noise 10⁻² 10⁻² Closed loop at X Closed loop at Y ETF ETF 10^{-4} 10⁰ 10^{-4} phi_to_X|² Lfast_to_X|² |phi_to_Y|² |Lfast_to_Y|² 10^{-6} 10^{-6} 10⁻³ Lslow_to_Y|2 Lslow to X|2 10⁻⁸ 10⁻⁸ Nfast_to X|2 Nfast_to_Y|2 Nslow to Y Nslow to X 10⁻¹⁰ 10^{-10} $10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2}$ $10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2}$ $10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2}$ Frequency (Hz) Frequency (Hz) Frequency (Hz) 1.05 1.029 1.01586990×10^{0} 1.04 1.026 1.01586989×10^{0} X error X error 1.023 1.01586989×10^{0} 1.03 1.020 1.01586989×10^{0} 1.02 1.017 1.01586989×10^{0} -8.5 -8.0 -7.5 -7.00.20 0.25 25 30 0.15 0.30 15 20 35 log_lqg_noise f_cutoff gain_fast 1.5 1.0159750×10^{0} 1.0159500×10^{0} error 1.3 1.0159250×10^{0} 1.2 1.0159000×10^{0} 1.0158750×10^{0} 1.1 1.0 0.25 0.50 0.75 0.00 1.00 leak_slow leak_fast

error