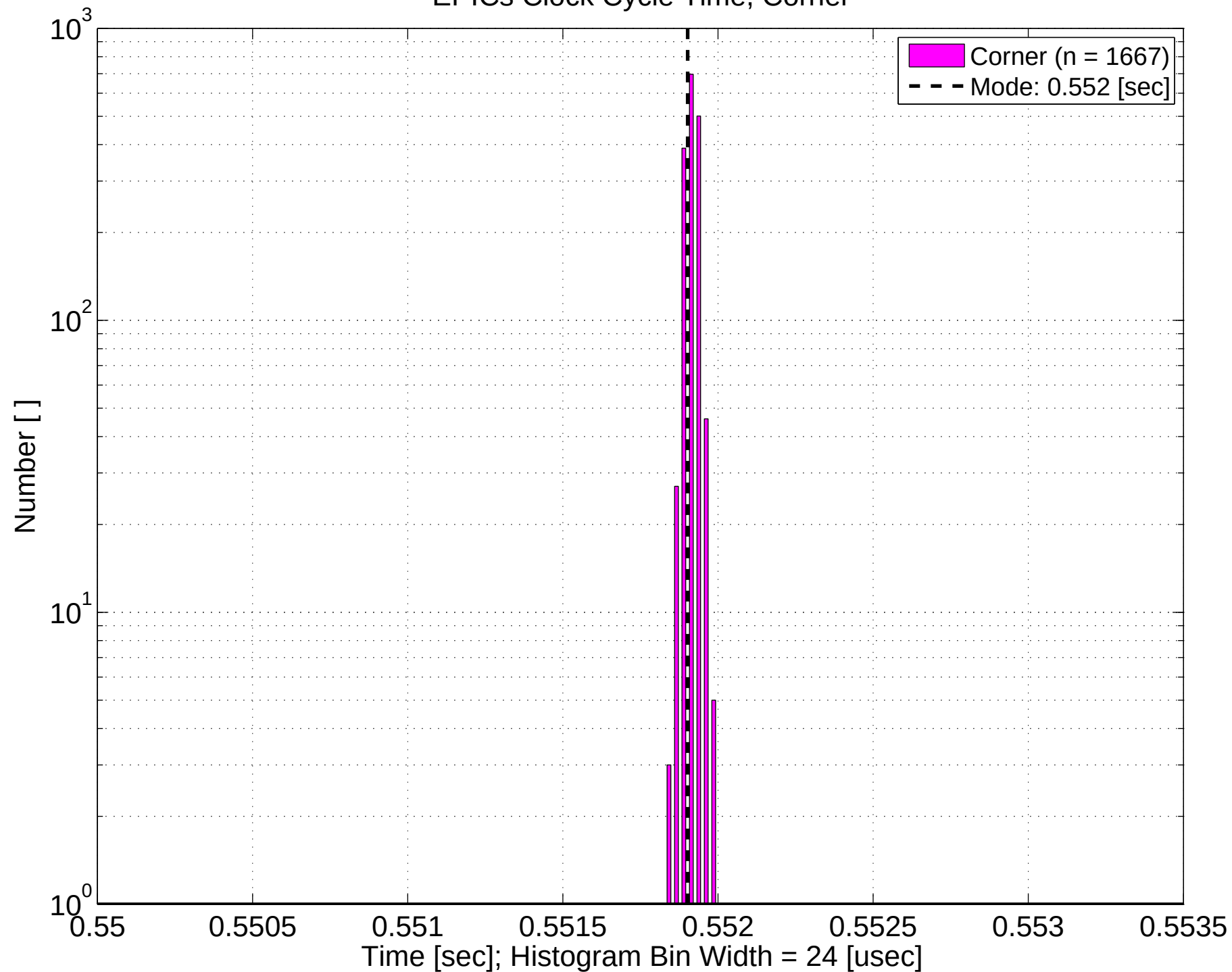
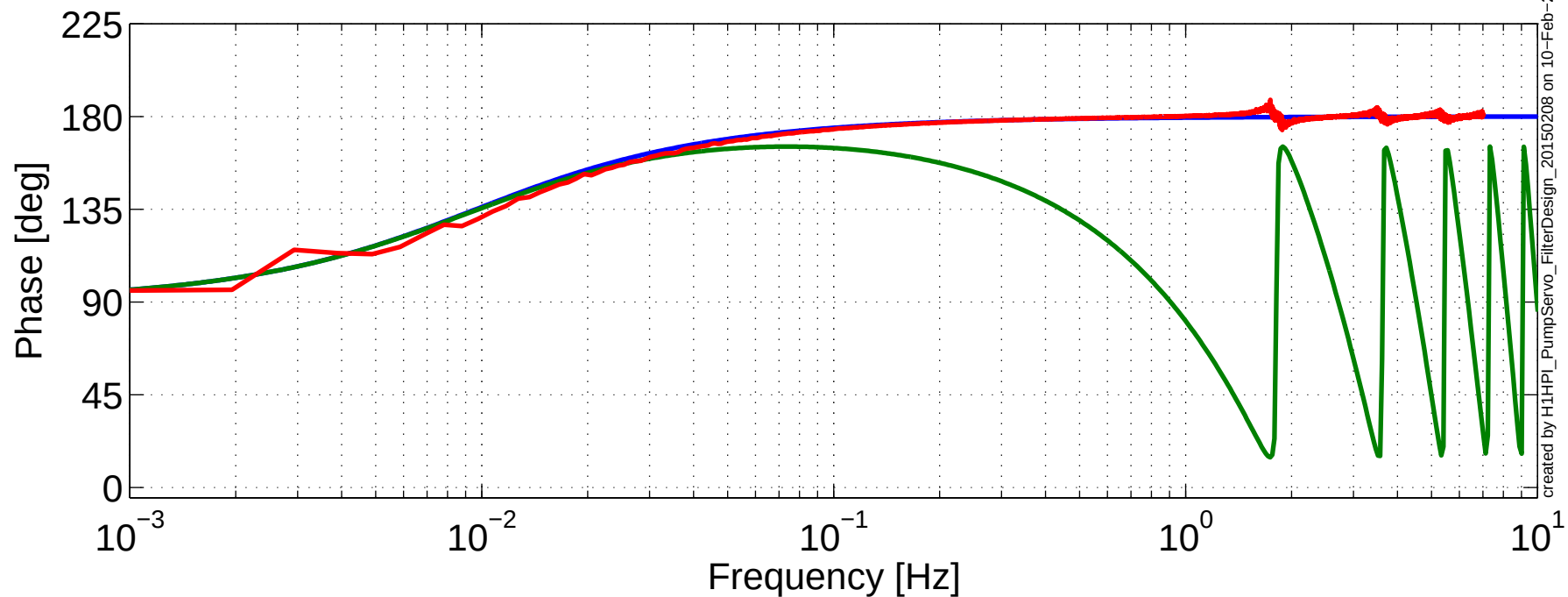
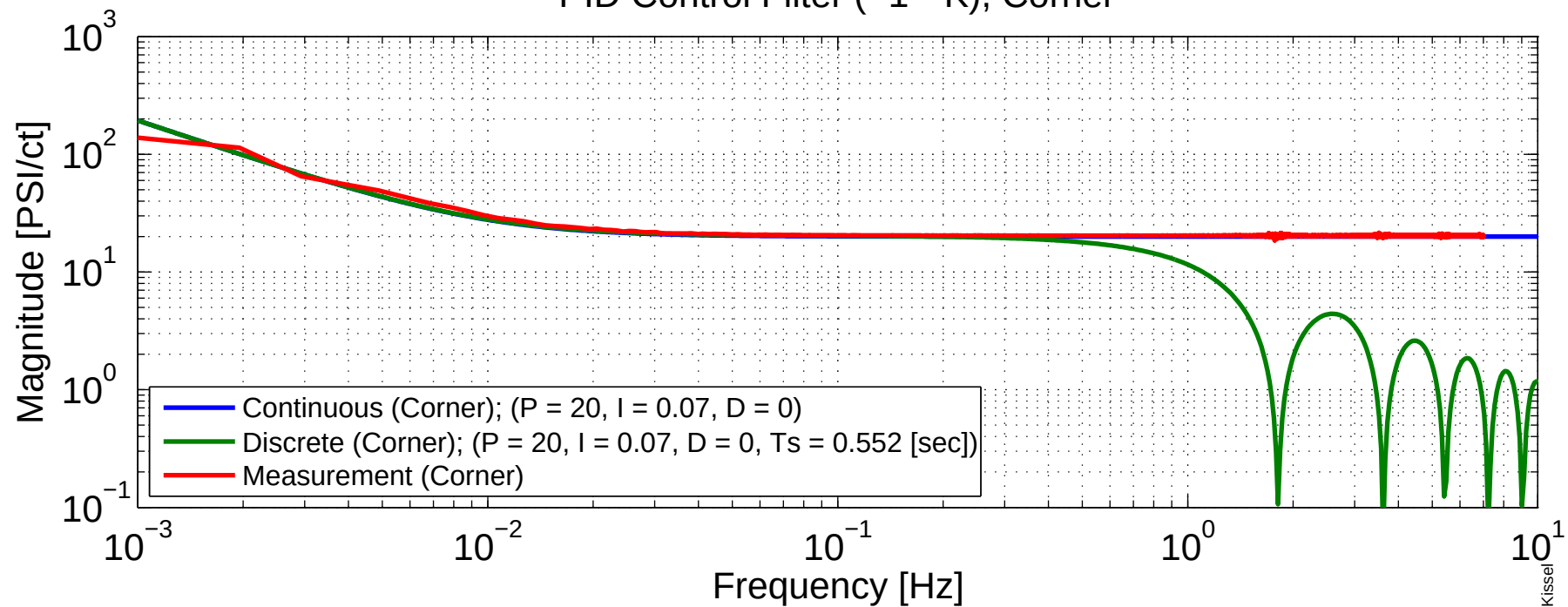


2015-02-10 H1 HPI Pump Servo Design
EPICs Clock Cycle Time, Corner

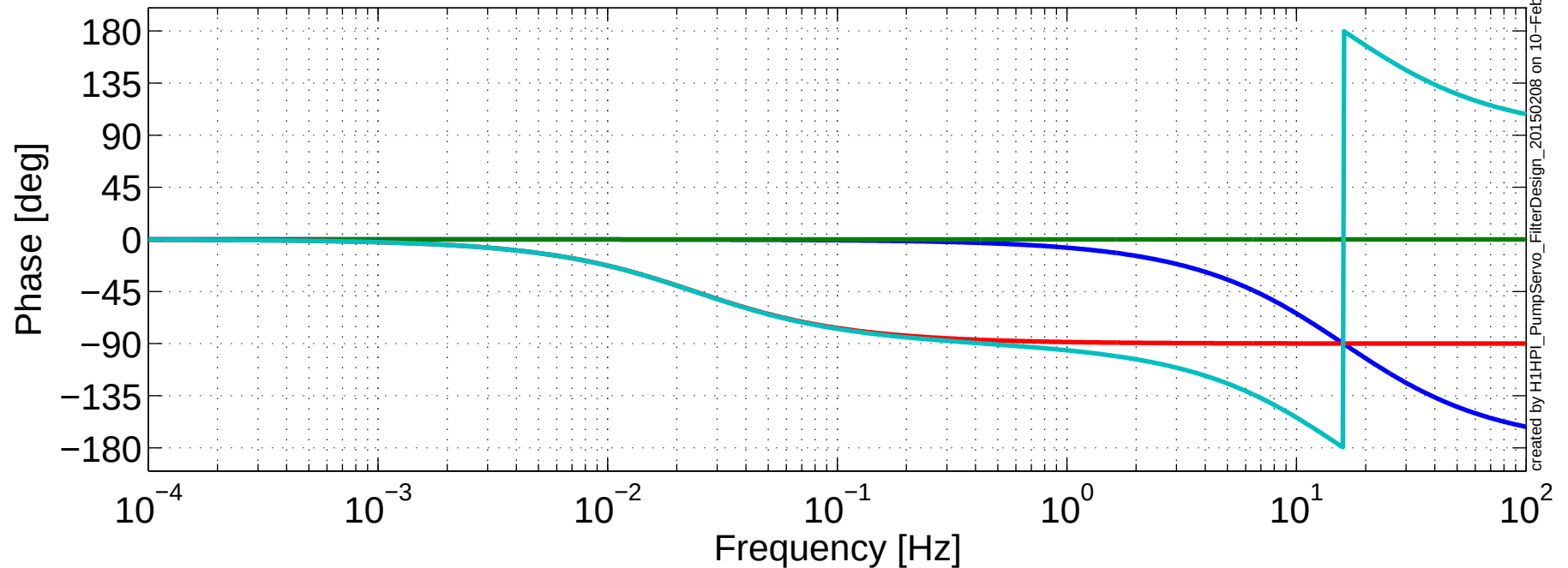
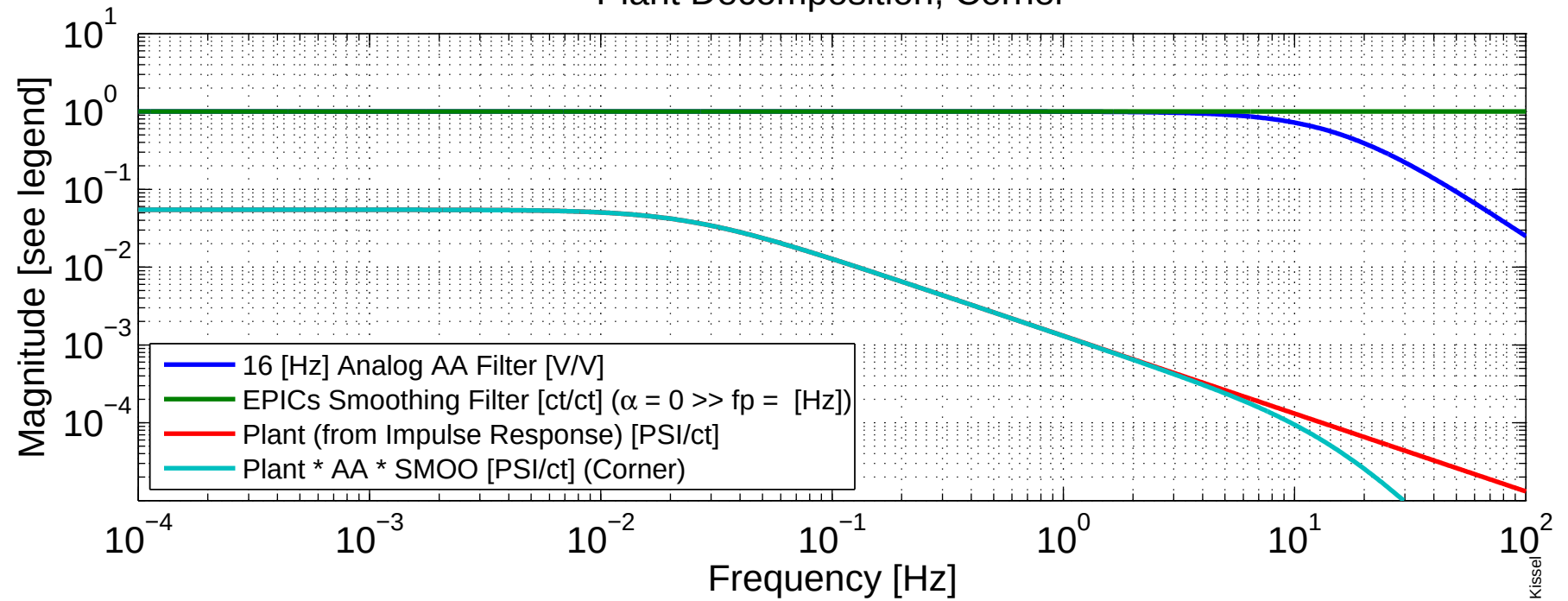


HEPI Pump Servo Design

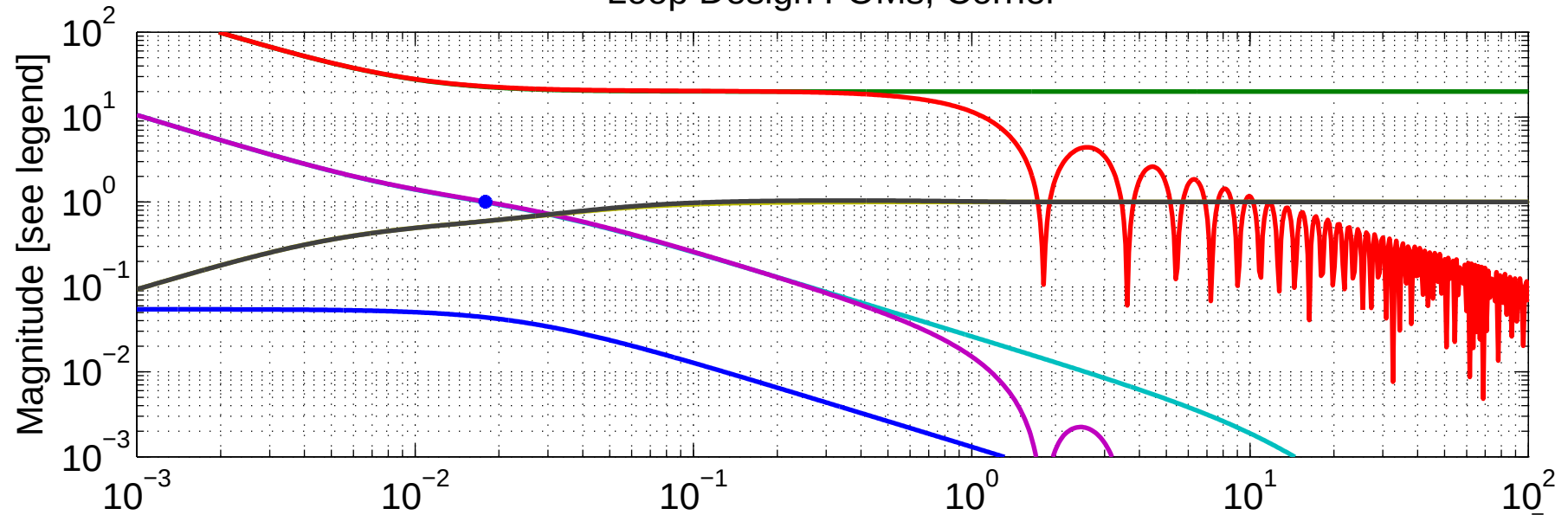
PID Control Filter ($-1 * K$), Corner



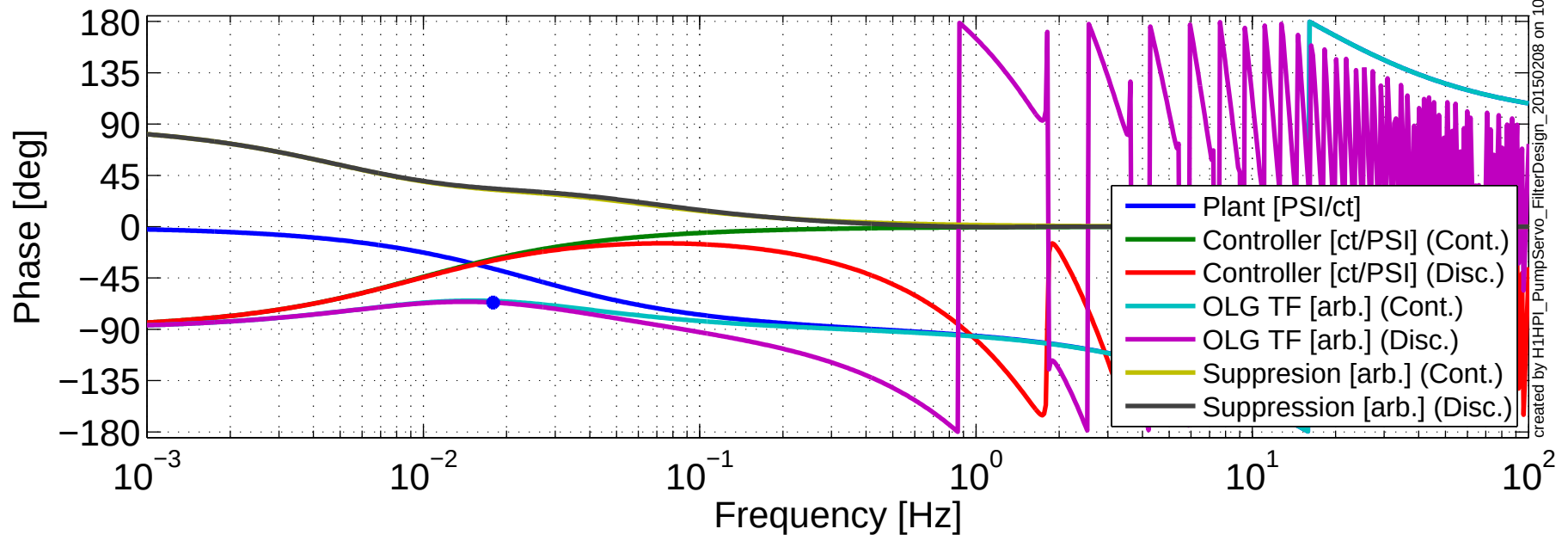
2015-02-10 H1 HPI Pump Servo Plant Decomposition, Corner



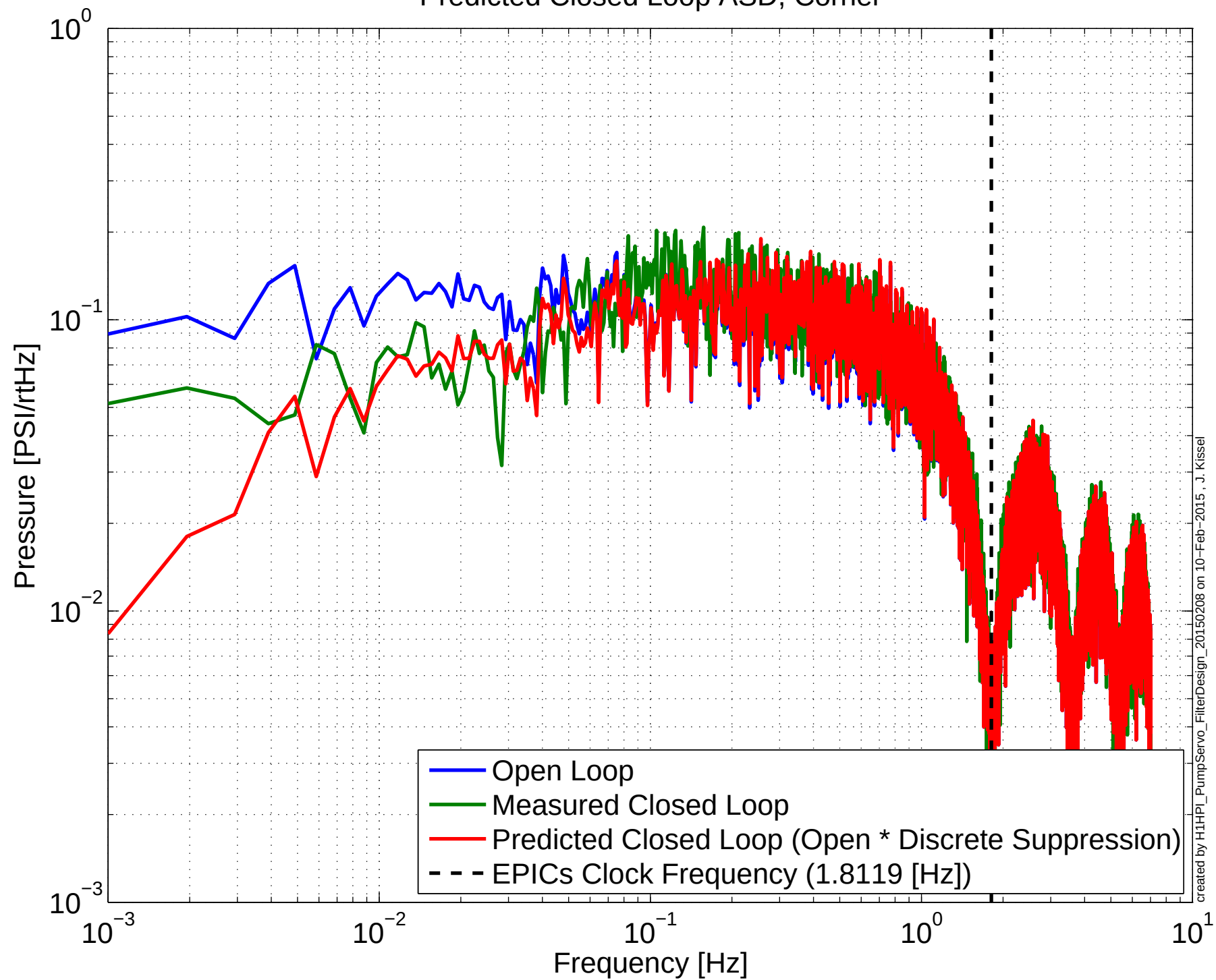
2015-02-10 H1 HPI Pump Servo Loop Design FOMs, Corner



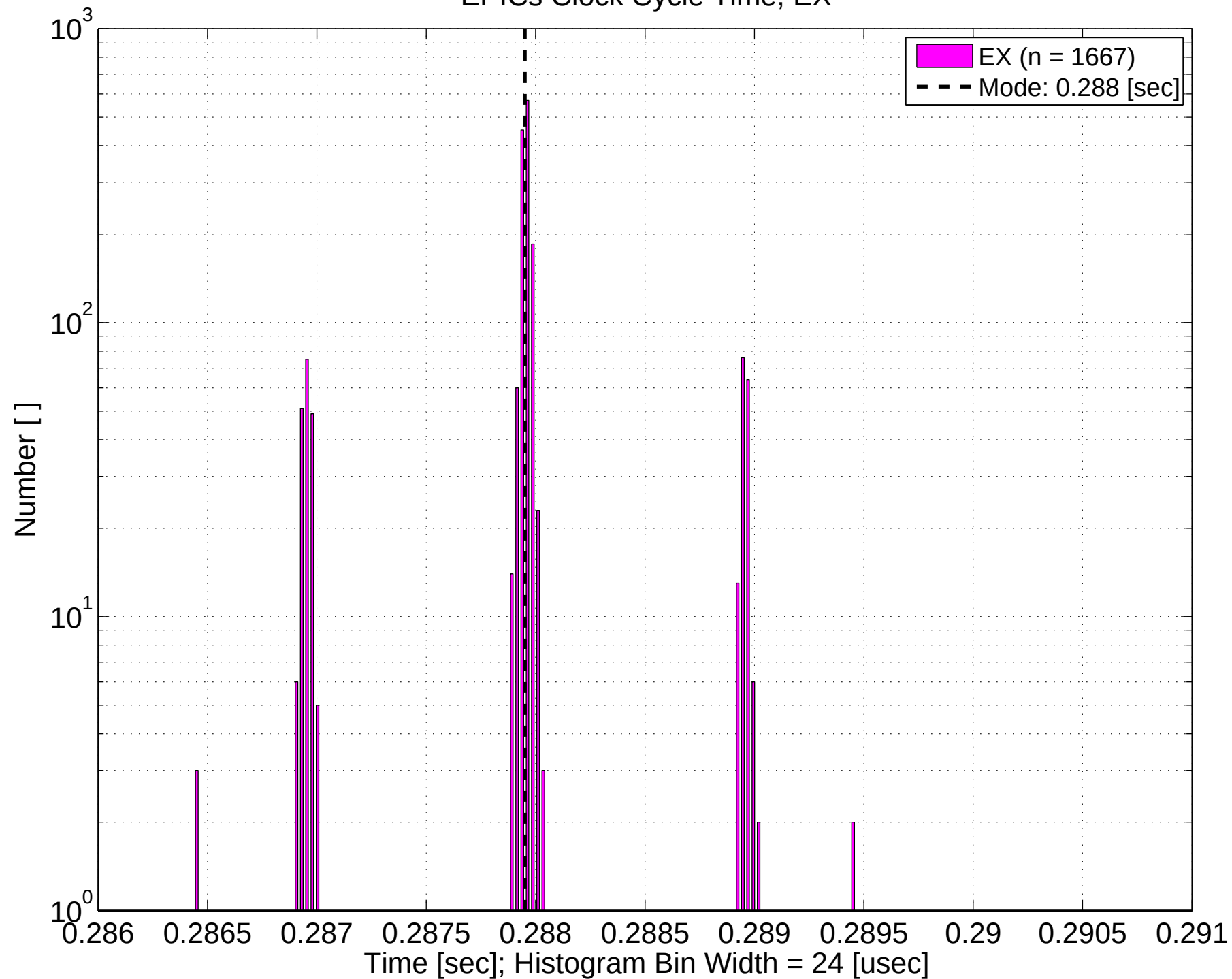
$(P, I, D, f_s, \alpha) = (20, 0.07 \text{ [cycles/min]}, 0, 1.8119 \text{ [Hz]}, 0)$
Phase Margin = 113 [deg] @ 0.018 [Hz]



2015-02-10 H1 HPI Pump Servo
Predicted Closed Loop ASD, Corner

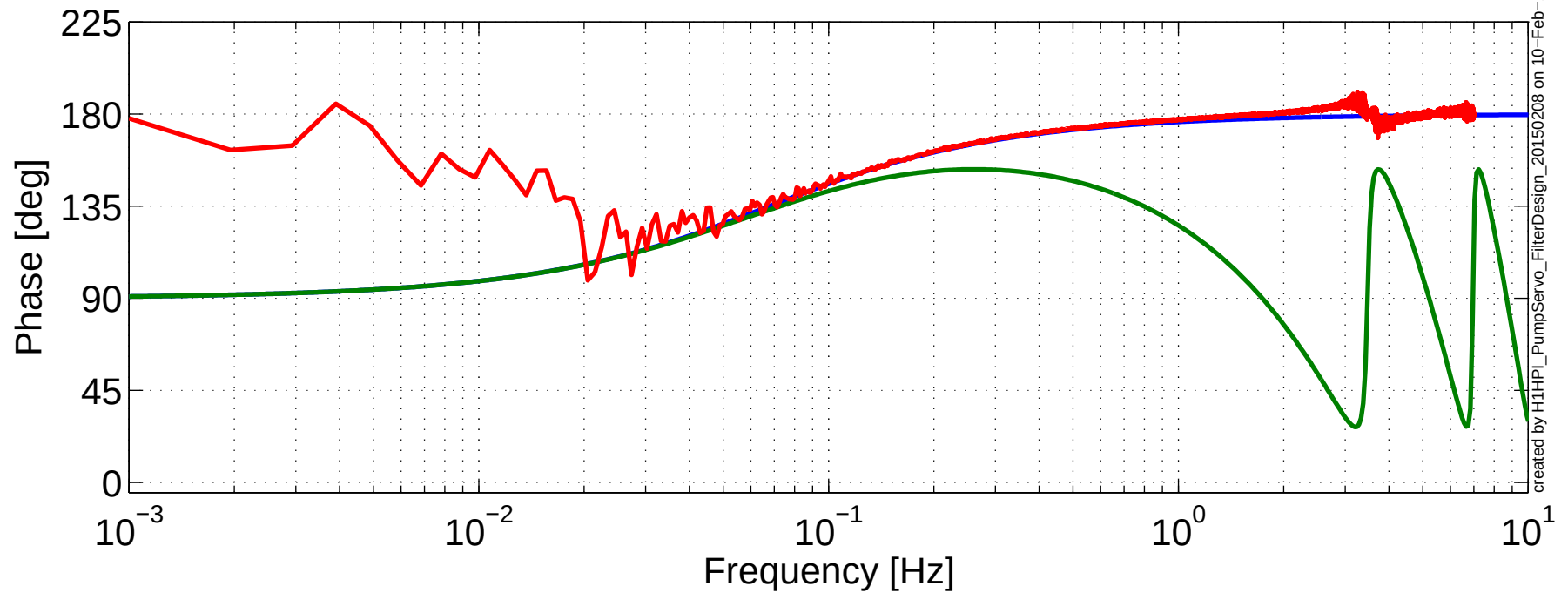
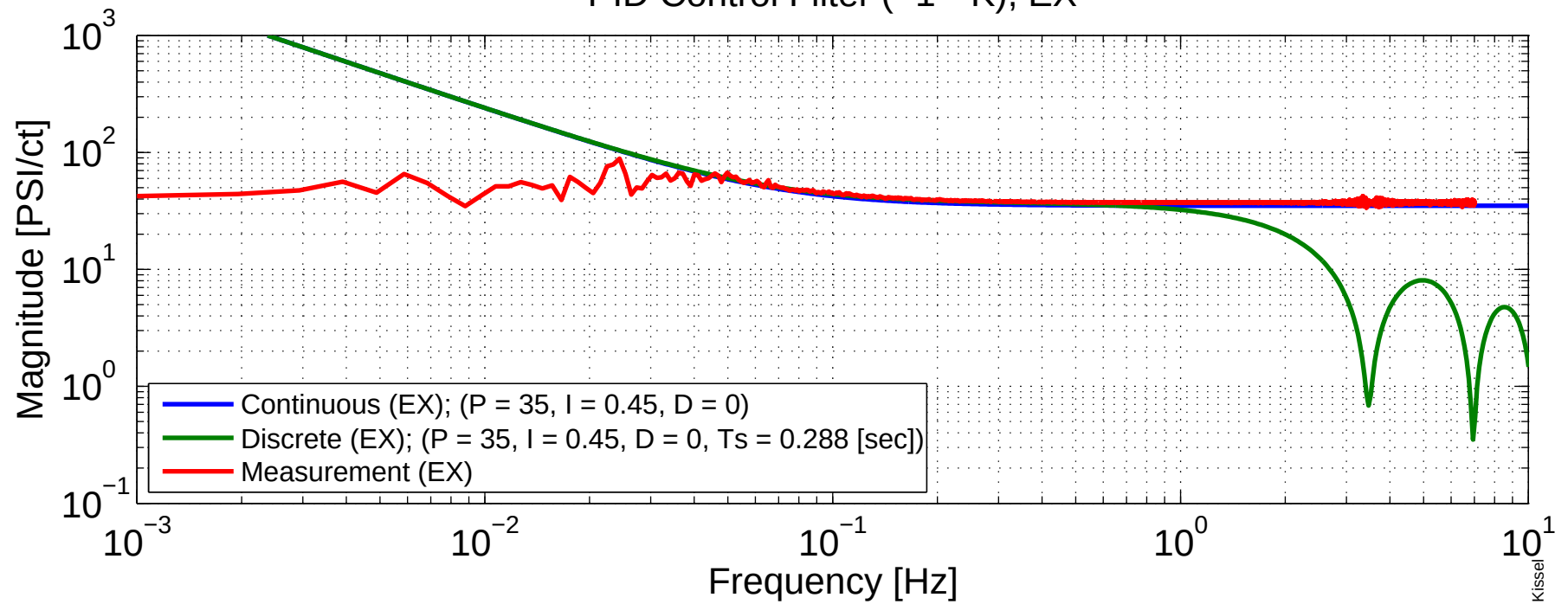


2015-02-10 H1 HPI Pump Servo Design
EPICs Clock Cycle Time, EX

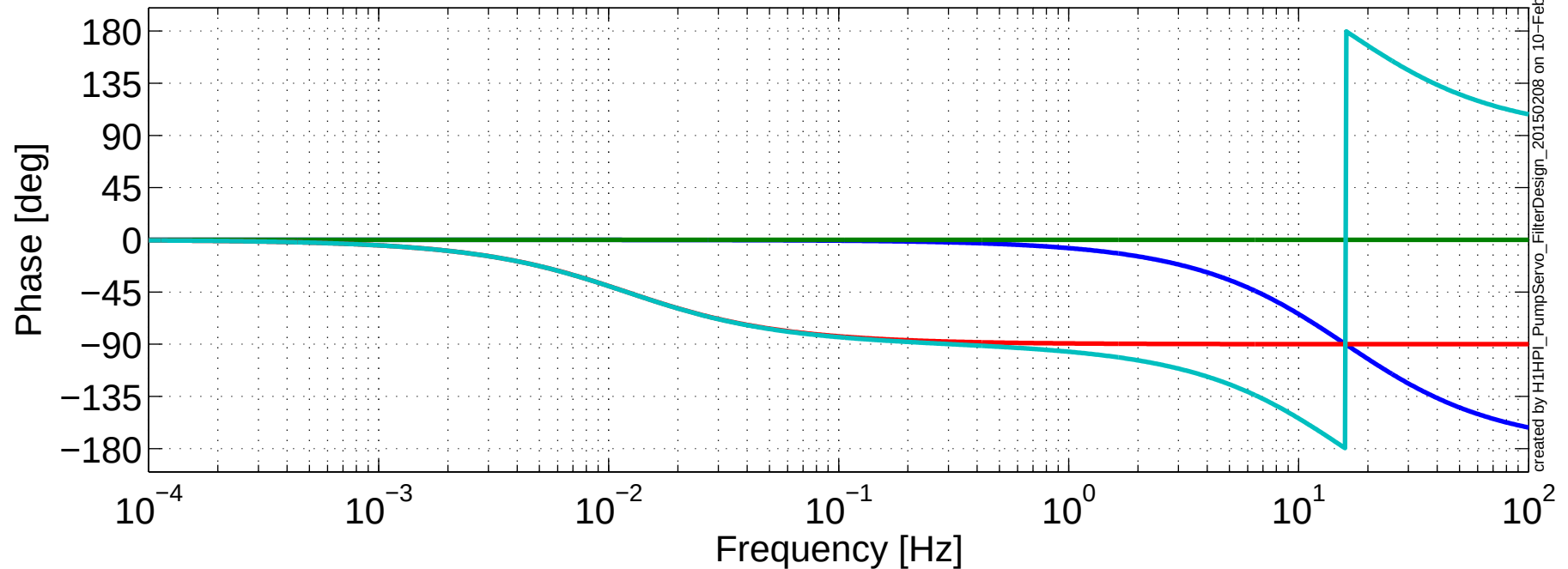
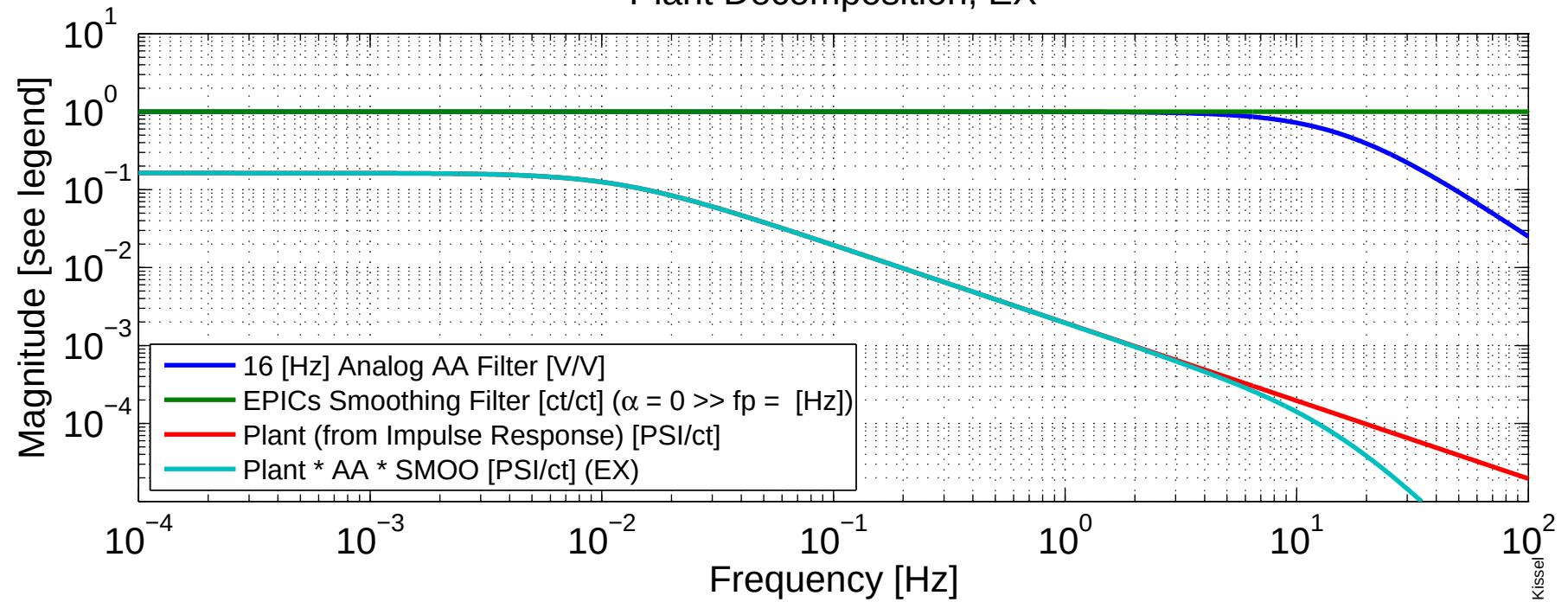


HEPI Pump Servo Design

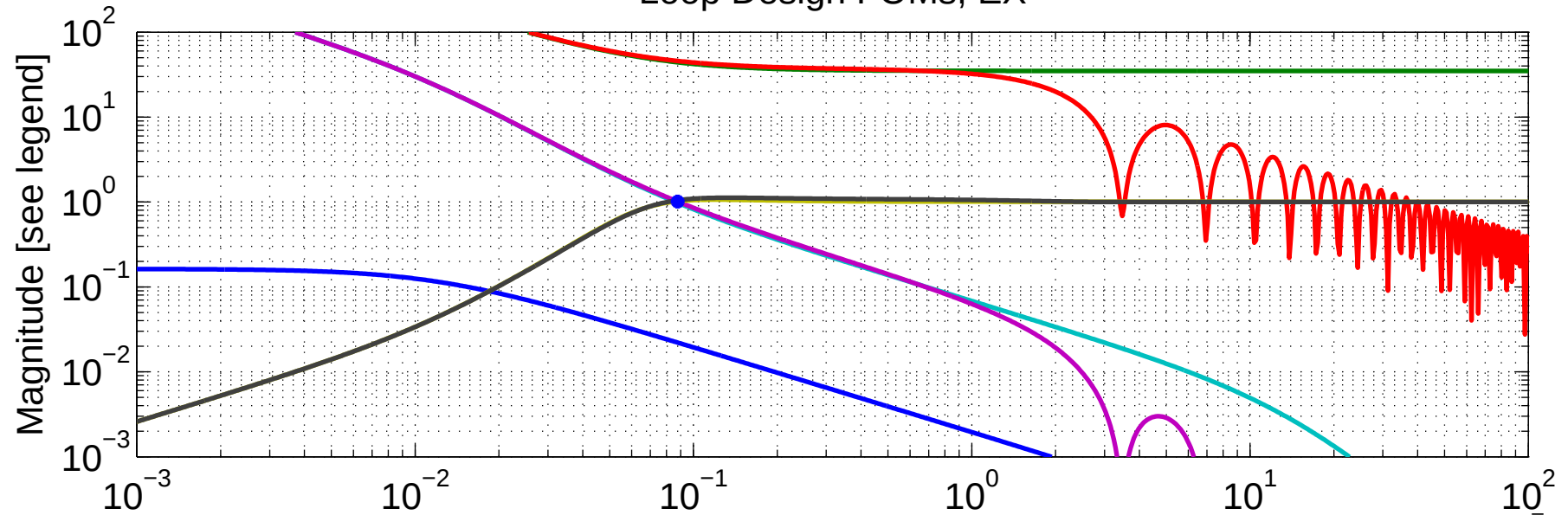
PID Control Filter ($-1 * K$), EX



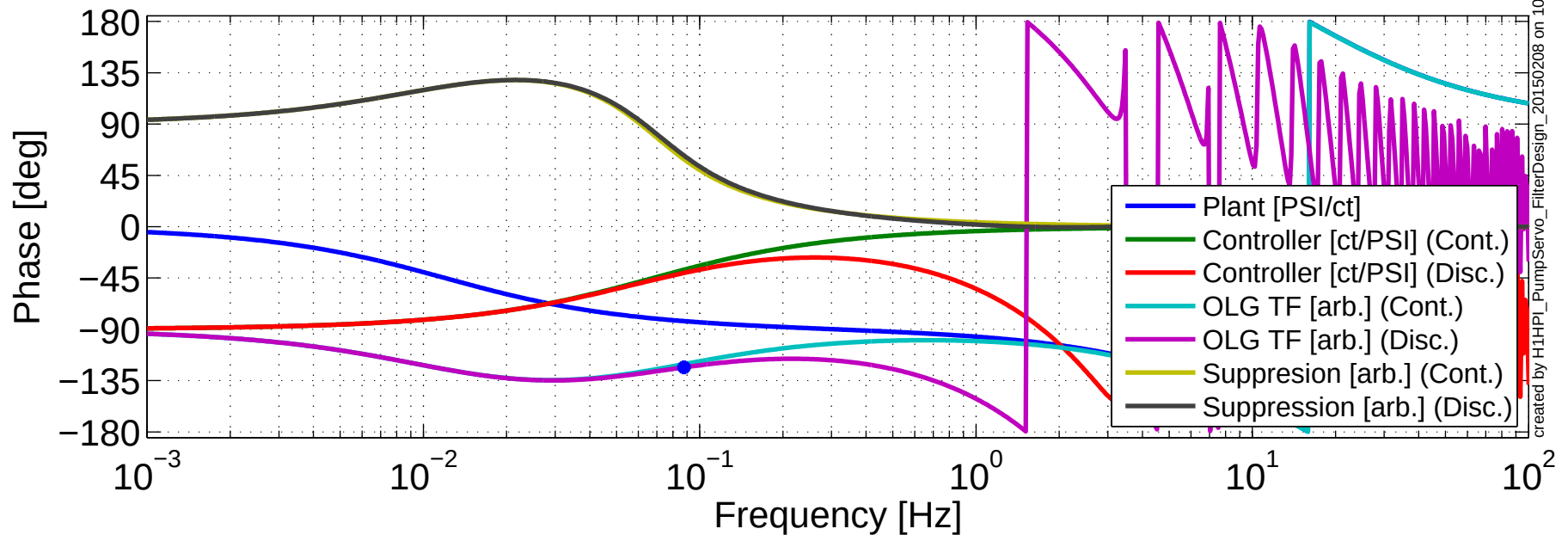
2015-02-10 H1 HPI Pump Servo Plant Decomposition, EX



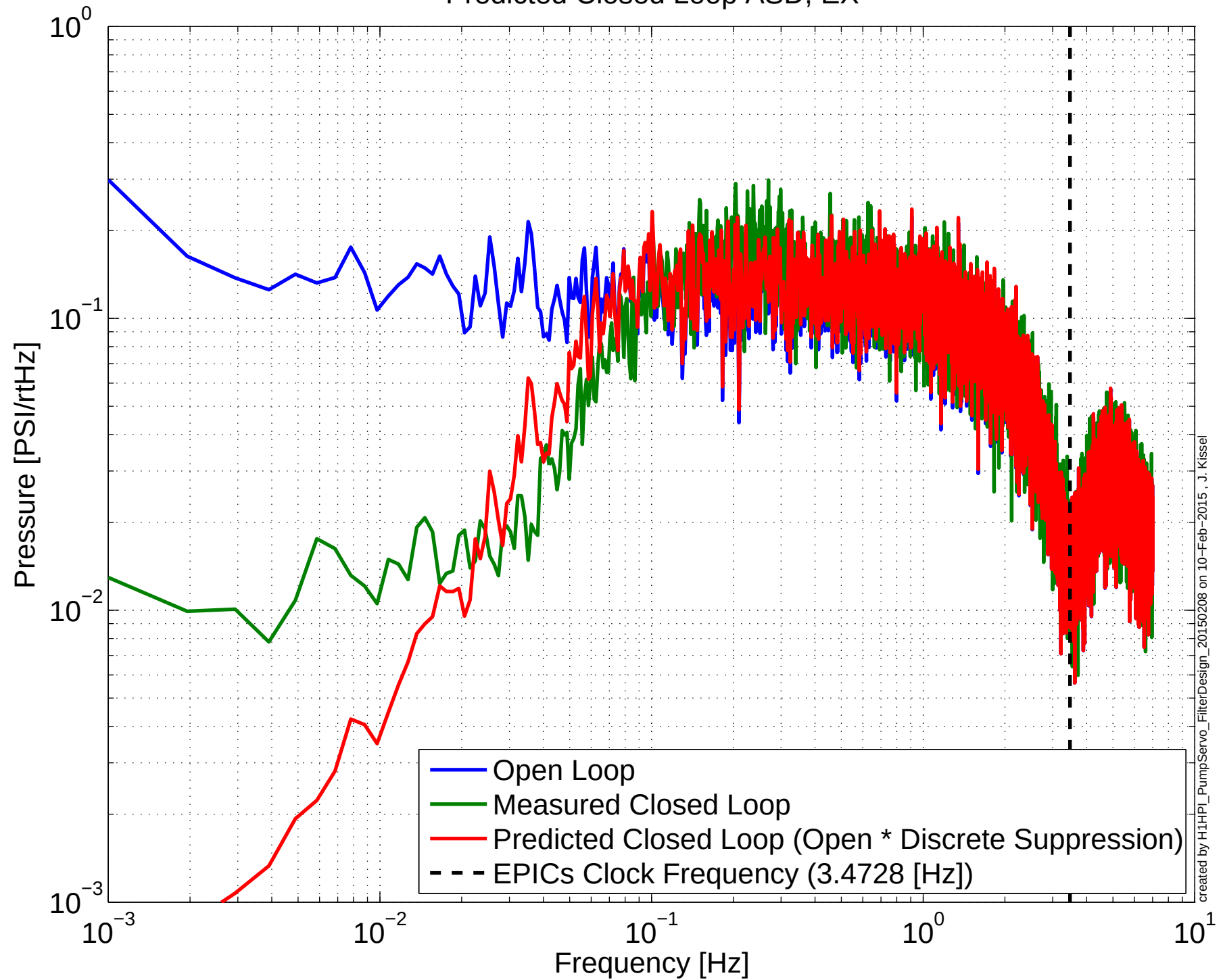
2015-02-10 H1 HPI Pump Servo Loop Design FOMs, EX



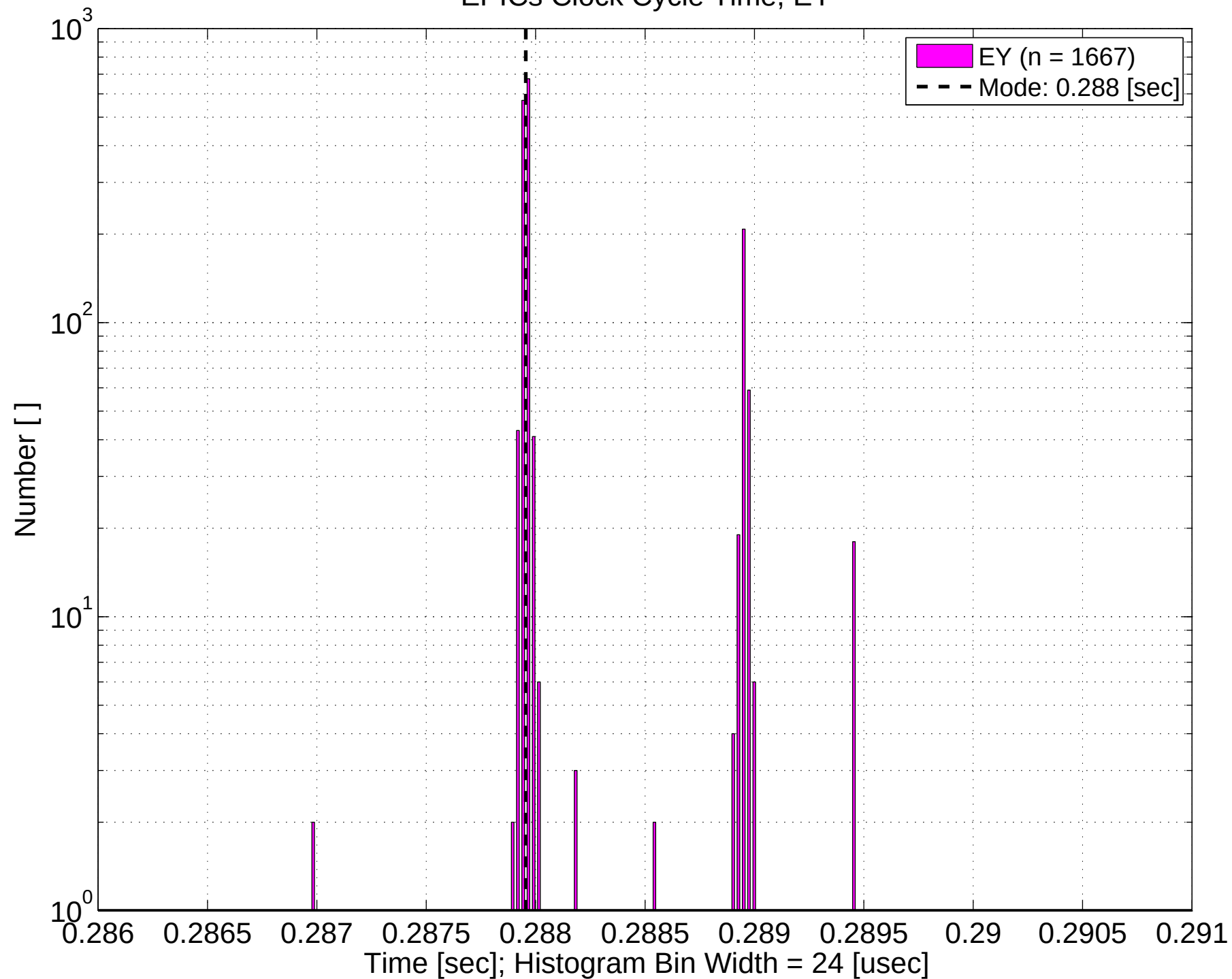
$(P, I, D, f_s, \alpha) = (35, 0.45 \text{ [cycles/min]}, 0, 3.4728 \text{ [Hz]}, 0)$
 Phase Margin = 56.6 [deg] @ 0.088 [Hz]



2015-02-10 H1 HPI Pump Servo
Predicted Closed Loop ASD, EX

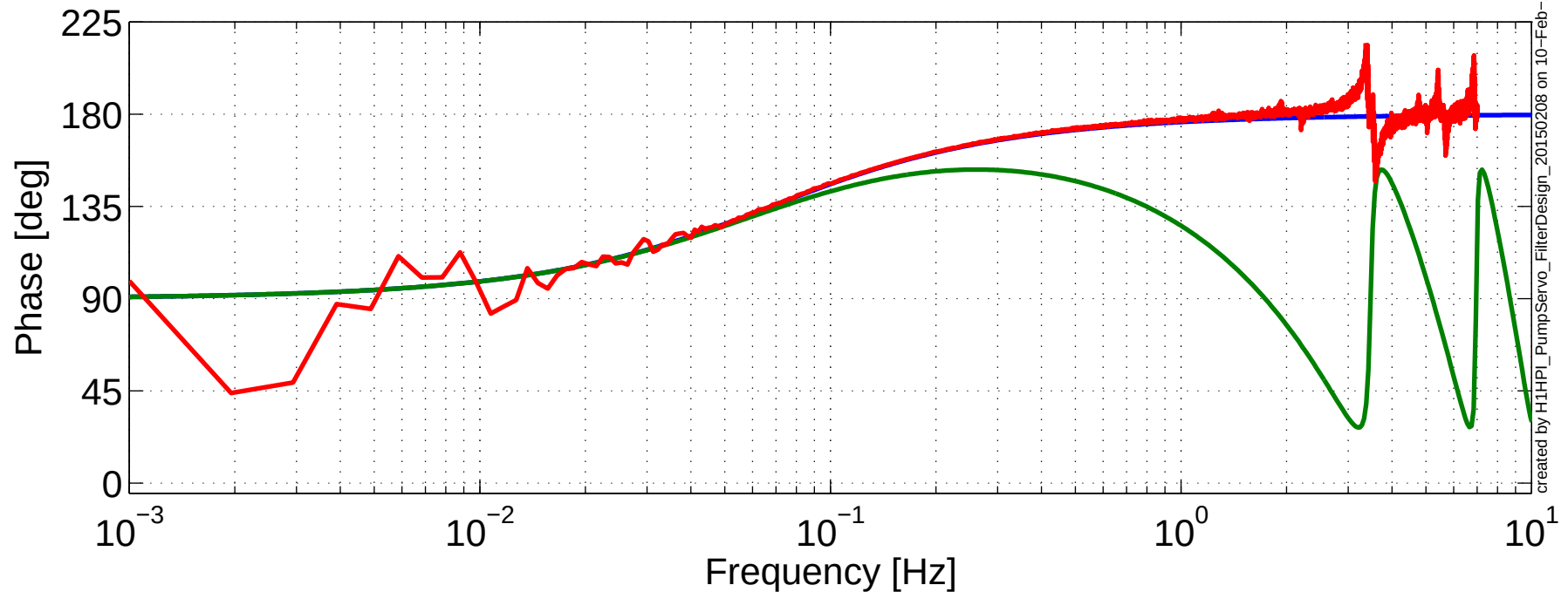
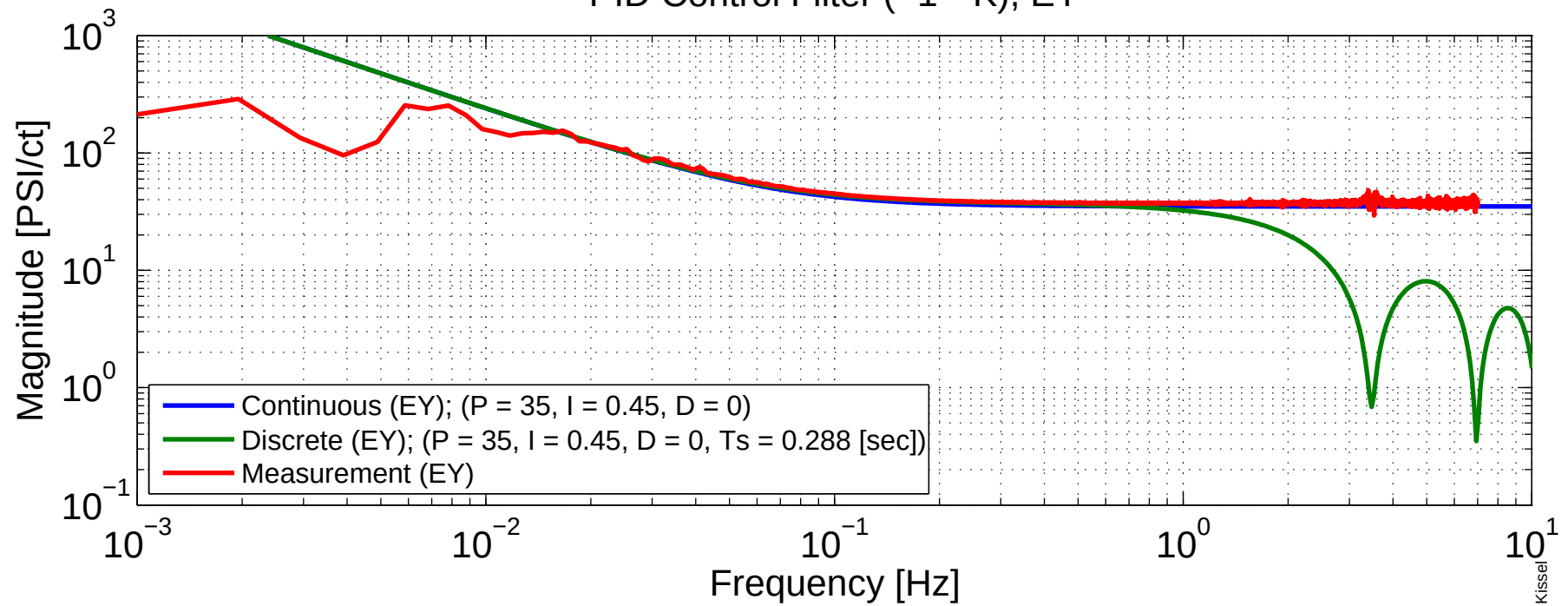


2015-02-10 H1 HPI Pump Servo Design
EPICs Clock Cycle Time, EY

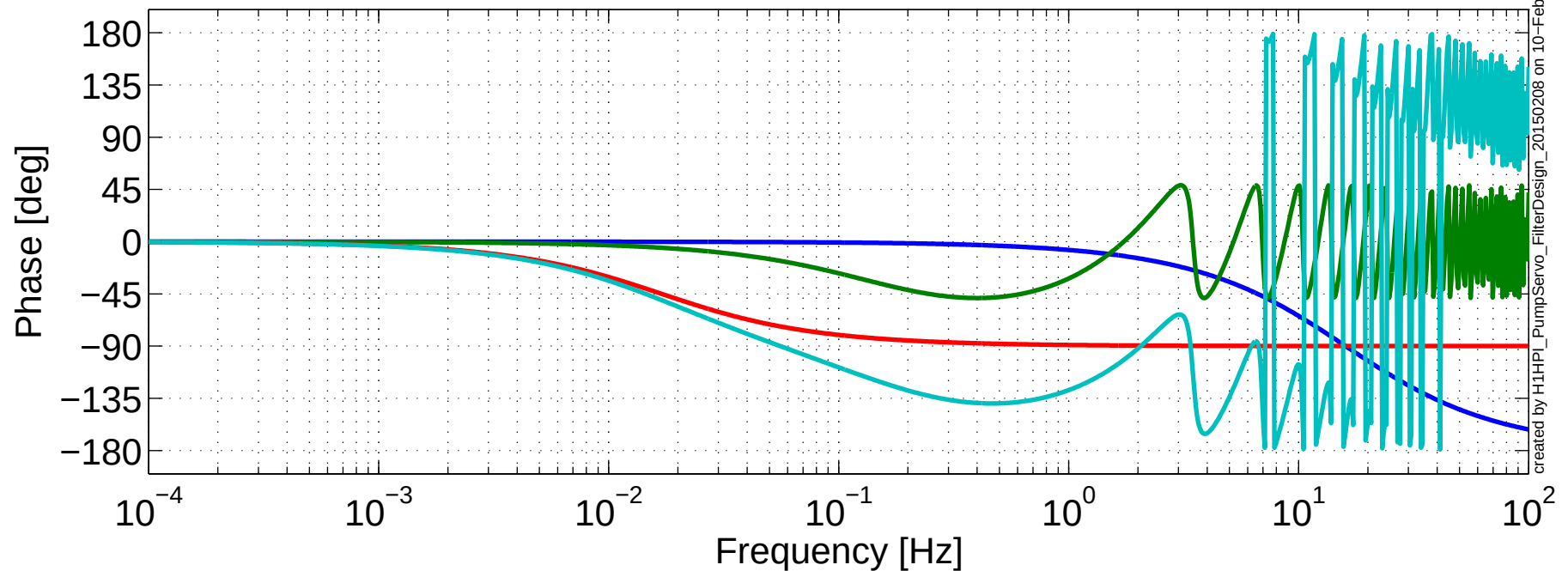
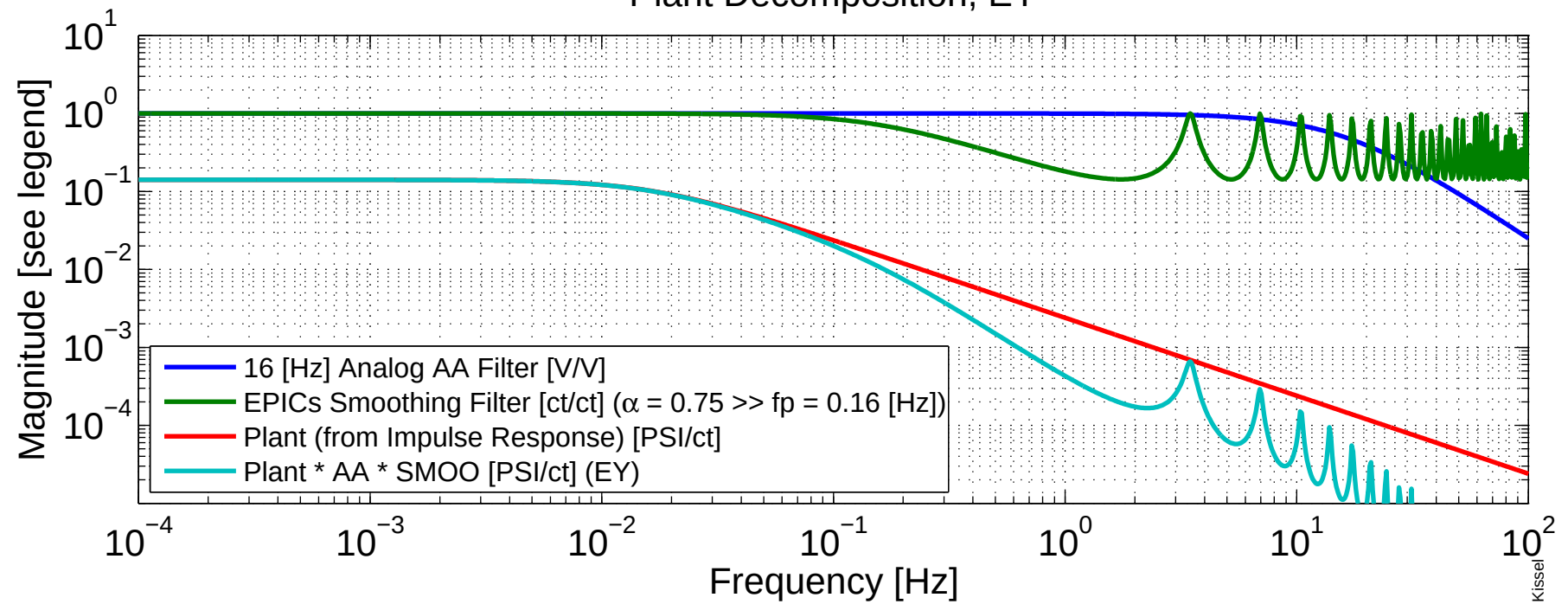


HEPI Pump Servo Design

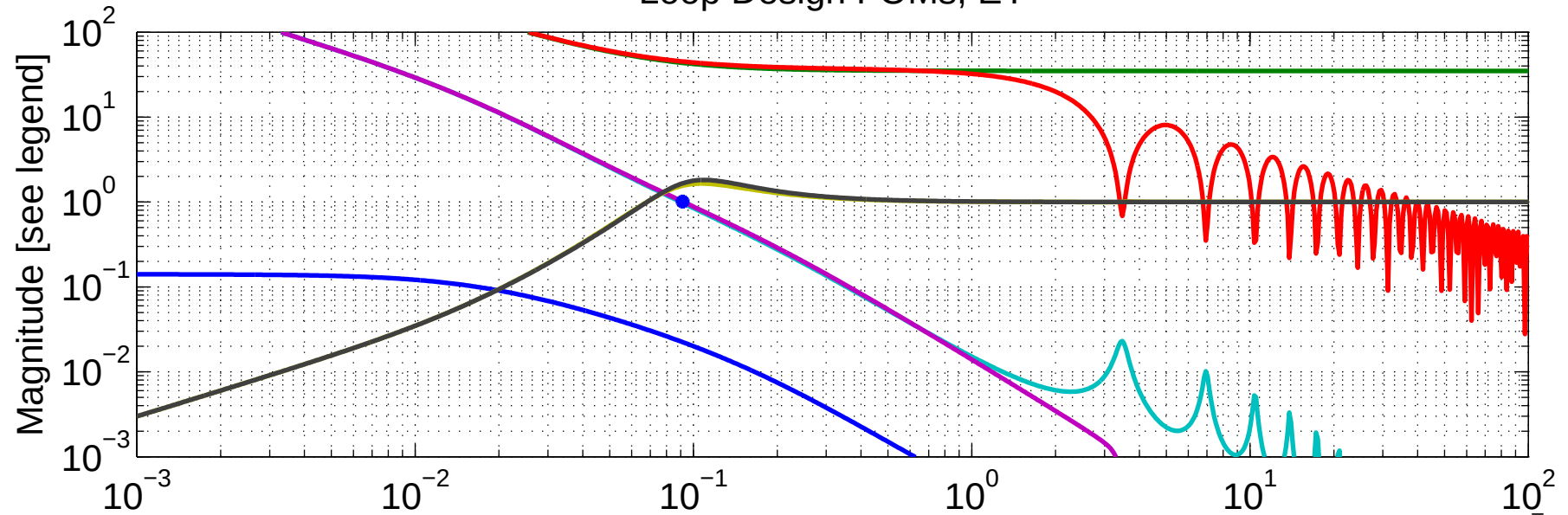
PID Control Filter ($-1 * K$), EY



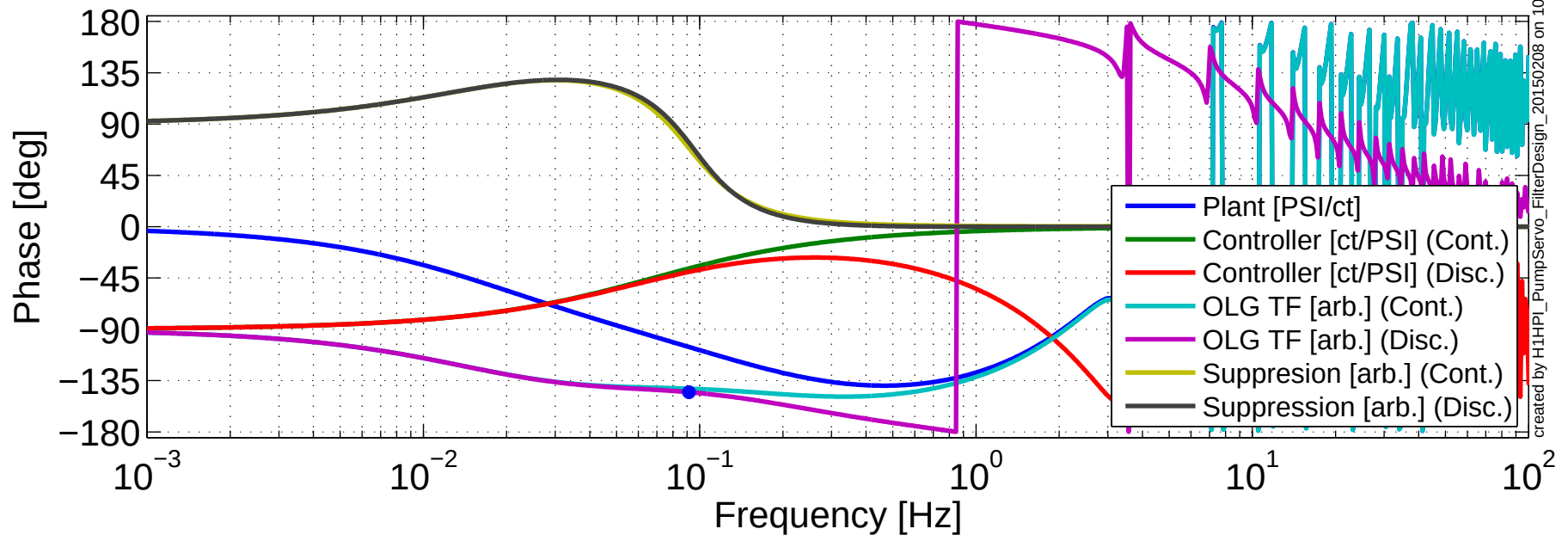
2015-02-10 H1 HPI Pump Servo Plant Decomposition, EY



2015-02-10 H1 HPI Pump Servo Loop Design FOMs, EY



$(P, I, D, f_s, \alpha) = (35, 0.45 \text{ [cycles/min]}, 0, 3.4728 \text{ [Hz]}, 0.75)$
 Phase Margin = 34.9 [deg] @ 0.091 [Hz]



2015-02-10 H1 HPI Pump Servo
Predicted Closed Loop ASD, EY

