Heading with Kalman filter with $\hat{\psi}$ as feedback to controller. $K_{pd}=0.8406$ Heading with Kalman filter with $\hat{\psi}$ as feedback to controller. $K_{pd}=0.707$ 50 50 40 40 30 30 20 20 Angle [°] Angle $[^{\circ}]$ -10 -10 -20 -20 -30 -30 200 300 100 400 500 100 200 300 400 Time [s] Time [s]

500