observer in original coordinates Measuring ['phi1fot, phi2dot'] x<sub>1</sub> Error 1.0 0.5 x<sub>1</sub> Error  $\overset{\mathsf{X}}{\mathsf{^{1}}}$ 0.0 -0.5 $10^{-3}$  $\hat{x_1}$  observer -1.00.5 x<sub>2</sub> Error 2 0.0  $\chi_2$ -0.5 $x_2$  system  $10^{-3}$  $\hat{x_2}$  observer x<sub>2</sub> Error -1.0 $10^{1}$ x<sub>3</sub> Error 1 x Erro 10-1 ×3 0 10<sup>-3</sup> -1 $\hat{x}_3$  observer  $10^{1}$ 0.5 0.0 x Fro 10<sub>-1</sub> <sup>₹</sup> -0.5 -1.0 $x_4$  system 10<sup>-3</sup>  $\hat{x_4}$  observer -1.510 x<sub>5</sub> Error x<sub>5</sub> system  $10^1$ 5  $\hat{x}_5$  observer x<sub>5</sub> Error  $10^{0}$ 0  $10^{-1}$ **-**5 -10 $10^{-2}$  $10^{2}$ 20 x<sub>6</sub> Error  $10^{0}$ 0  $x_6$  system  $10^{-2}$ -20  $\hat{x}_6$  observer 10 0 5 15 20 25 30 0 5 10 15 20 25 30 Time (s) Time (s)