Online Optimization with $\mathbf{b}_k = \text{sine-sine}^2 - \text{mixed}$ and constant Hessian 10^{2} 10⁰ 10^{-2} Tracking error 10^{-4} 10^{-6} 10-8 10^{-10} Online gradient Control-based Sys ID ARX 10^{-12} Control-based Baseline 100 200 300 400 500 600 700 800 0 Time