$L_1$  Horizontal Lyapunov ( $H_{lt} = -1.500$ ,  $a_{lt} = 0.05$ ) - Periodicity constraints verification Defect vector magnitude after convergence Position deviation at full period  $10^{-10}$  $10^{-16}$  $\frac{1}{2}\pi$  $2\pi$ Maximum number of corrections Velocity deviation at full period Number of corrections  $\frac{1}{2}\pi$  $\frac{1}{2}\pi$ Distribution of errors over collocated trajectory Maximum collocation segment error collocation points  $\max(e_i)$ - $\min(e_i)$ Number of nodes  $\frac{1}{2}\pi$  $\alpha$  [-]  $\alpha$  [-]