L_2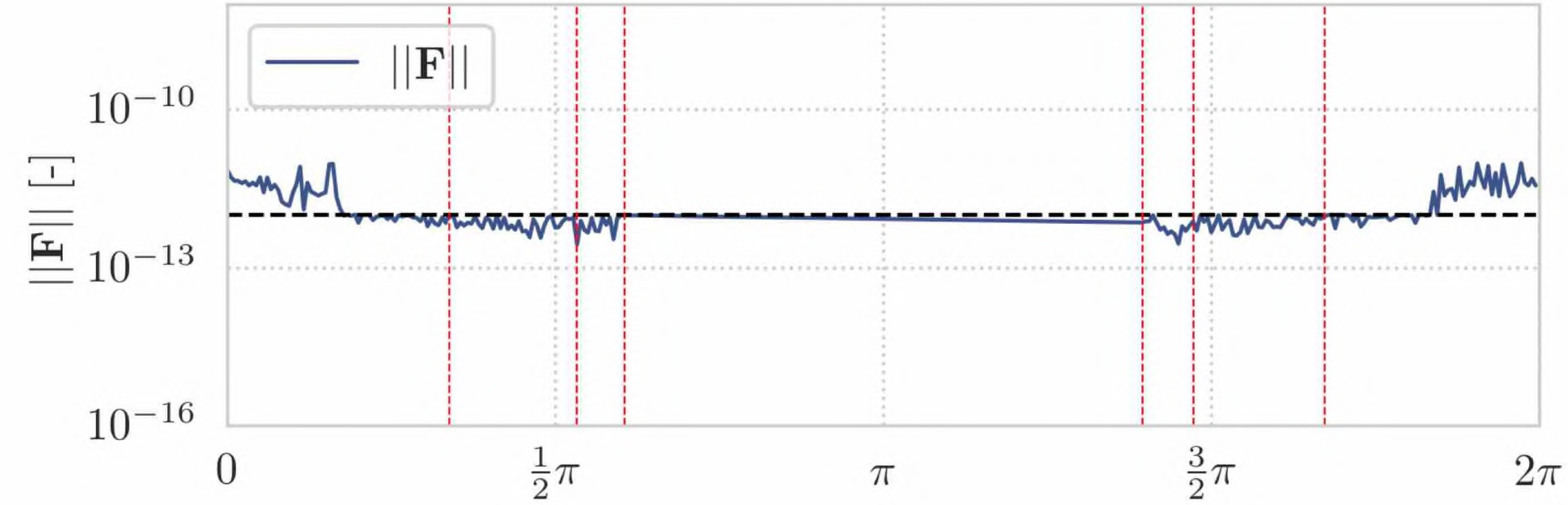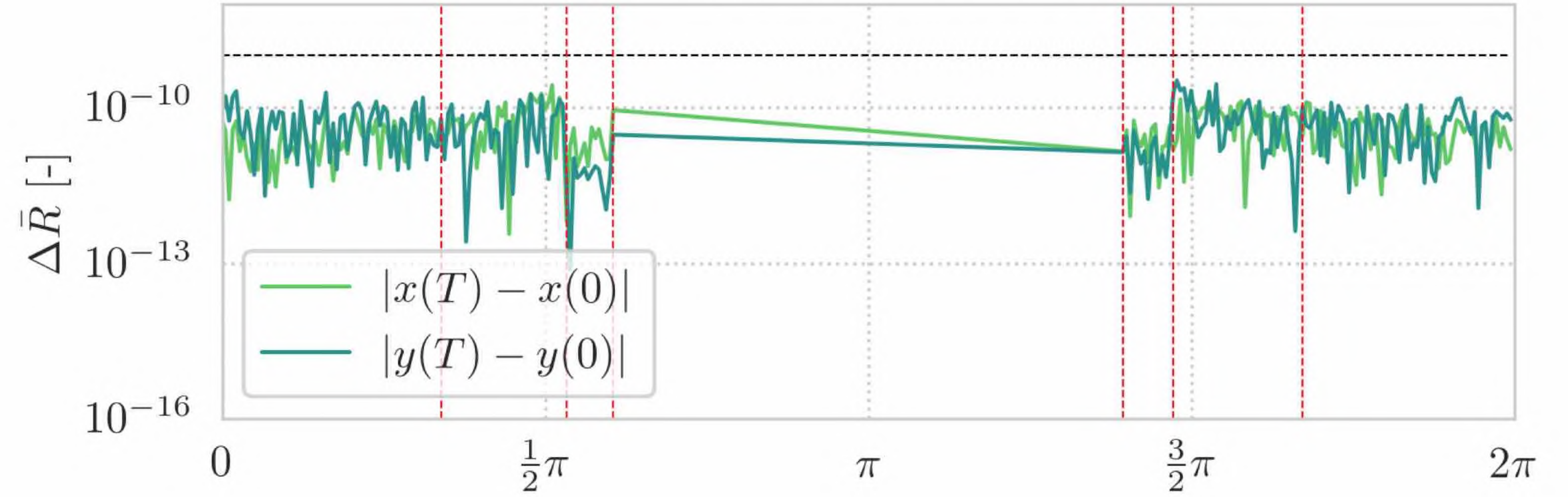 Horizontal Lyapunov ($H_{lt} = -1.550$, $a_{lt} = 0.10$) - Periodicity constraints verification