

FIG. 3 Error signals of $E_K(t)$ in the primary infection (solid line) and reactivation (dashed line) cases. Both cases represent a small error with the order of 10^{-3} which shows that the controller was employed properly to track the desired trajectories suitably.

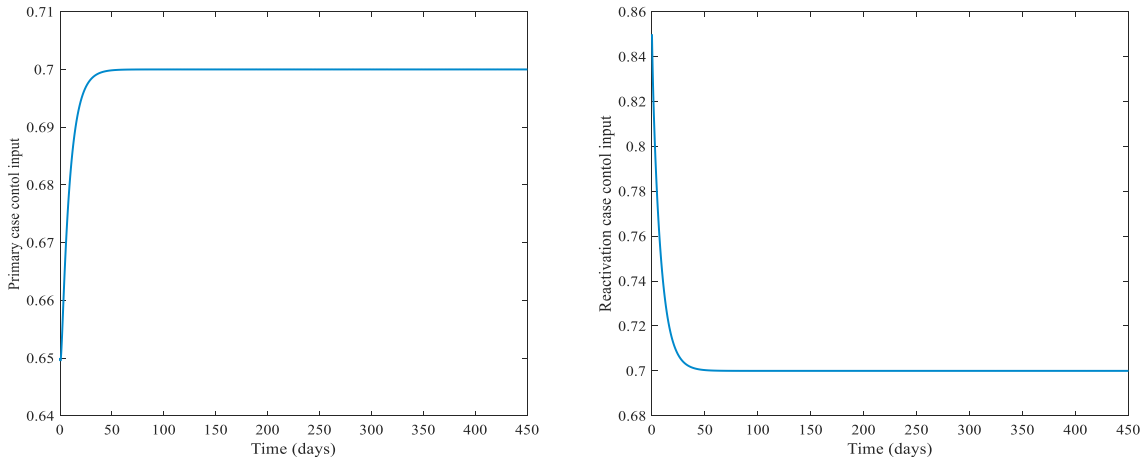


FIG. 4 Normalized immunosuppressive drug dosage as the control input $\epsilon(t)$. The left graph is demonstrating the primary infection case and the right graph is for the reactivation case, both reaching 0.7 as the steady-state drug dosage magnitude based on the final value of $E_{Kf} = 1.5$.

not have a considerable sensitivity with respect to λ_C . For instance, E_K followed its desired response suitably as it is evident from its error value in Fig. 8.

Fig. 9 depicts the sensitivity analysis results for a 10% change in the parameter δ_{CKEK} (a numerator in Eq. 6). The considerable changes witnessed in the previous

analysis on λ_C (Fig. 7) is seen to be even more intense. As an instance, the concentration of free HCMV (V) is reached 100 Copies/ μ L-blood as its maximum value, for both primary and reactivation cases, which is clinically unacceptable as it is 25 times higher than its admissible threshold.