

Numerical simulations

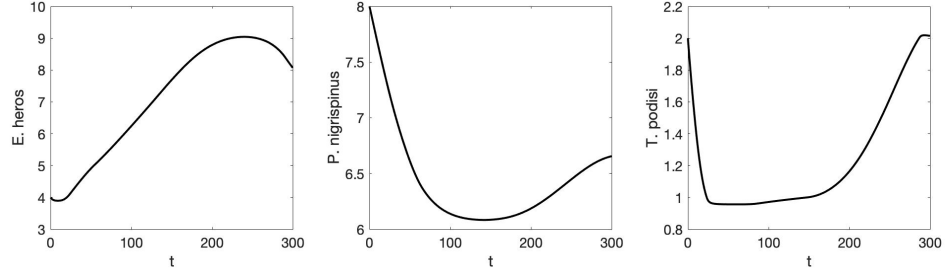


Figure 7: The evolution of the population contingents of brown stink bug (*E. heros*), the predators (*P. nigrispinus*) and the parasitoids (*T. podisi*) in time with $x_0 = 4$, $y_0 = 8$ and $z_0 = 2$ of the fuzzy model.

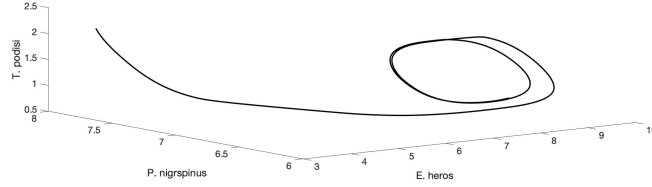


Figure 8: The phase space by the fuzzy system in time of the population of brown stink bug (*E. heros*), the predators (*P. nigrispinus*) and the parasitoids (*T. podisi*) in time with $x_0 = 4$, $y_0 = 8$ and $z_0 = 25$.

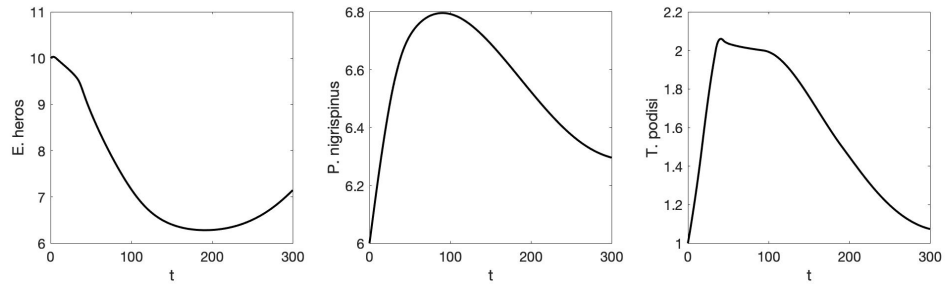


Figure 9: The evolution of the population contingents of brown stink bug (*E. heros*), the predators (*P. nigrispinus*) and the parasitoids (*T. podisi*) in time with $x_0 = 10$, $y_0 = 6$ and $z_0 = 1$ of the fuzzy model.

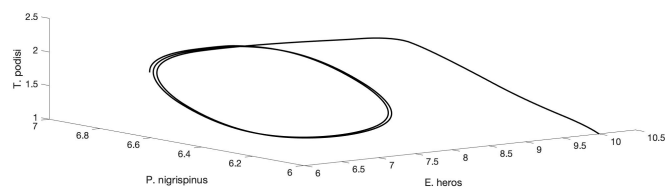


Figure 10: The phase space by the fuzzy system in time of the population of brown stink bug (*E. heros*), the predators (*P. nigrispinus*) and the parasitoids (*T. podisi*) in time with $x_0 = 10$, $y_0 = 6$ and $z_0 = 1$.