

Numerical simulations

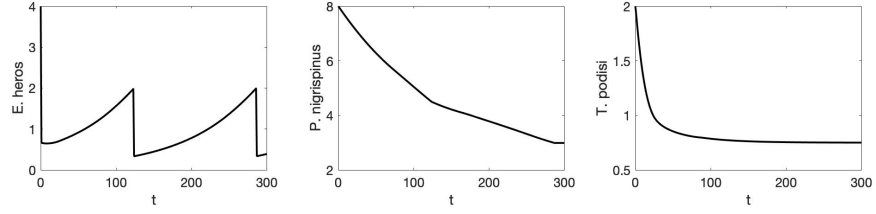


Figure 12: The evolution of the population contingents of brown stink bug (*E. heros*), the predators (*P. nigrispinus*) and the parasitoids (*T. podisi*) in time with $x_0 = 4$, $y_0 = 8$ and $z_0 = 2$ of the fuzzy model with applications of insecticide.

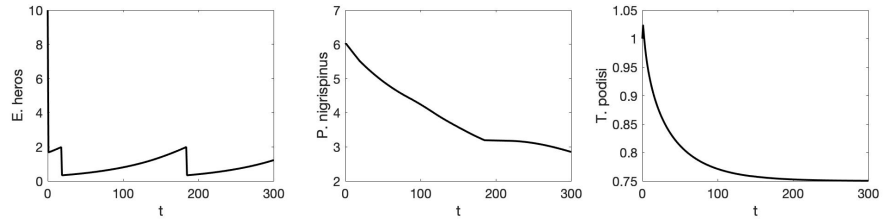


Figure 13: The evolution of the population contingents of brown stink bug (*E. heros*), the predators (*P. nigrispinus*) and the parasitoids (*T. podisi*) in time with $x_0 = 10$, $y_0 = 6$ and $z_0 = 1$ of the fuzzy model with applications of insecticide.

Numerical simulations

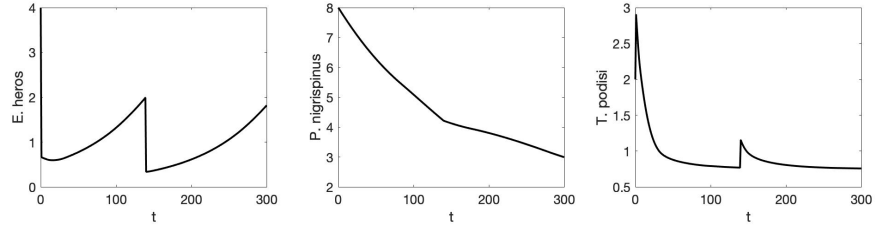


Figure 14: The evolution of the population contingents of brown stink bug (*E. heros*), the predators (*P. nigrispinus*) and the parasitoids (*T. podisi*) in time with $x_0 = 4$, $y_0 = 8$ and $z_0 = 2$ of the fuzzy model with applications of insecticide and insertion of parasitoids.

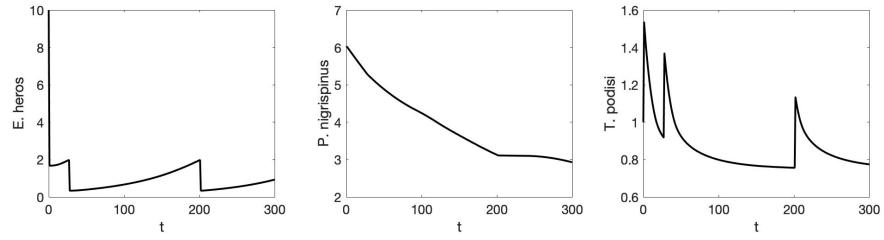


Figure 15: The evolution of the population contingents of brown stink bug (*E. heros*), the predators (*P. nigrispinus*) and the parasitoids (*T. podisi*) in time with $x_0 = 10$, $y_0 = 6$ and $z_0 = 1$ of the fuzzy model with applications of insecticide and insertion of parasitoids.