

The thesis deals with Holling-Tanner model which is one of predator-prey models. In the first chapter the Holling-Tanner model is formulated, its biological interpretation is explained and some ways are introduced how to modify the model. The second chapter introduces two useful methods which are used in qualitative analysis of Holling-Tanner model. The third chapter focuses on qualitative analysis directly. The qualitative analysis is processed exemplary on one of the modifications of system. The fourth chapter focuses on the Holling-Tanner model of the second type exclusively and tries to compare its particular modifications.