

Abstract: In many contemporary branches of science we encounter a case of certain corruption of recieved data or signal. One often cannot prevent such thing by reason of simple physical laws. Our effort naturaly is to get rid of this noise, that means to filter it off. In such conditions comes forth filtering theory which pursues the goal to deduce real values of data no more corrupted by noise from the data that are possible to observe. We will deal with filtering in special conditions, particularly in Markov chains with discrete time. Very often also comes forward the demand to estimate or anticipate future path of certain processes. This is a task for theory of prediction.