

In the present work we deal with the problems of stochastic modelling of interest rates. Among the most common techniques in the modelling of the dynamics of interest rate we can find the use of stochastic differential equations of diffusion, whose cornerstones are the drift and diffusion functions. Since 70th of the 20 century, many models of this type have been designed, and although these models are constantly improving, the natural question that arises is whether the historically observed interest rates really follow such diffusion equations. In this work, we just set out a hypothesis test for several most common one-factor interest rates models of the first generation. From historical data we determine the estimators of unknown parameters by the generalized method of moments and maximum-likelihood method and then we perform statistical tests of goodness of fit for the concrete diffusions and observed data.