Title: Stochastic interest rates modeling
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Abstract: This present work studies different stochastic models of interest rates. Theoretical part of this work describes short-rate models, HJM framework and LIBOR Market model. It focuses in detail on widely known short-rate models, i.e. Vašíček, Hull-White and Ho-Lee model, and on LIBOR Market model. This part ends by valuation of interest rate options and model calibration to real data. Analytical part of the work analyses valuation of real non-standard interest rate derivative using different models. Part of this derivative valuation is comparison among models in terms of general valuation and also in terms of capturing the dynamics of interest rates. The aim of this work is to describe different stochastic models of interest rates and mainly to compare them with each other.