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Summary: The classical Heston model does not consider no long-term dependence of asset, and the financial empirical analysis proves that it cannot describe the real situation of assets well. In this article, the mixed Gaussian Heston model is established and stocks data are analyzed. Firstly, the existence and uniqueness of the solution and the properties of the p-order moment of the solution are discussed, respectively. Secondly, the unknown parameters in the model are estimated and the sensitivity analysis are carried out. The actual data of three stocks are used to compare the price path satisfied by Heston model and mixed Gaussian Heston model with the real path. It shows that the mixed Gaussian Heston model can describe the asset price better than the Heston model.

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Full Text: Link