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Full and fast calibration of the Heston stochastic volatility model

Yiran Cui, Sebastian del Baño Rollin, Guido Germano

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Highlights

- A complete and efficient calibration method of the Heston model is proposed.
- The analytical gradient is obtained from a new expression of characteristic function.
- The nonlinear least-squares problem is solved with the Levenberg-Marquardt method.
- Several numerical aspects on improving the efficiency are discussed.
- No local minima are observed in a systematic test.