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Volatility Inference in the Presence of Both Endogenous Time and Microstructure Noise

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In this article we consider the volatility inference in the presence of both market microstructure noise and endogenous time. Estimators of the integrated volatility in such a setting are proposed, and their asymptotic properties are studied. Our proposed estimator is compared with the existing popular volatility estimators via numerical studies. The results show that our estimator can have substantially better performance when time endogeneity exists.

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