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**Abstract title:**

Trading Networks in Financial Markets

**Abstract:**

We construct and analyze trading networks of market members acting at some venues of Nasdaq European markets. Our analysis is performed on time intervals as long as one calendar month for a period of 23 months. By performing an information filtering approach based on the tool of statistically validated network we are able to detect a networked structure of the trading relations occurring among highly heterogeneous market members. Specifically, our results show that some market members specialize with respect to their liquidity profile by acting primarily as liquidity providers or liquidity takers. This specialization can last for a period of time as long as the time interval of almost two years (2010–2011) available for our analysis. The aspect of price information discovery is also considered from the perspective of complex network construction, time dynamics, analysis and modeling.