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“Modeling Cryptocurrency Markets with Transaction Aware Agents”

Blockchain provides access to the transaction graph for all market participants, yet the properties of this graph and its implications for participants are largely unknown. In particular, we seek to understand the conditions under which an agent's knowledge of the Bitcoin transaction graph is collectively self-regularizing.

This talk builds on recent empirical work addressing the extent to which the transaction graph serves as an early-warning indicator for large financial losses. By identifying certain sub-graphs ('chainlets') with causal effect on price movements, we demonstrate the impact of extreme transaction graph activity on the intraday volatility of the Bitcoin prices series. In particular, we infer the loss distributions conditional on extreme chainlet activity. Armed with this empirical representation, we propose a modeling approach to explore conditions under which the market is stabilized by transaction graph aware agents.