

Christmas Workshop Energy Finance 2016 | December 12th – December 16th | Abstract

Optimal Market Making in the German Intraday Power Market

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Abstract:

In this article we derive a model for limit order pricing in the German intraday power market from the perspective of a market maker. The arrivals of buy and sell market orders and limit order-driven mid price and half spread changes are modeled as Hawkes processes, causing their intensities to always correspond to the current levels of activity. The Agent uses the current intensity to price trends induced by heavy trading on one side of the market into her buy and sell limit order prices, thus protecting herself from adverse selection. We derive optimal strategies for the Agent and discuss their characteristics. We backtest our approach and find evidence that operating as a market maker in the German intraday power market may be profitable, in particular over the last 45 minutes of a trading window.