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# A Prediction Model Using the Price Cyclicality Function Optimized for Algorithmic Trading in Financial Market

**Authors :** Cristian Păuna

**Abstract :** After the widespread release of electronic trading, automated trading systems have become a significant part of the business intelligence system of any modern financial investment company. An important part of the trades is made completely automatically today by computers using mathematical algorithms. The trading decisions are taken almost instantly by logical models and the orders are sent by low-latency automatic systems. This paper will present a real-time price prediction methodology designed especially for algorithmic trading. Based on the price cyclicality function, the methodology revealed will generate price cyclicality bands to predict the optimal levels for the entries and exits. In order to automate the trading decisions, the cyclicality bands will generate automated trading signals. We have found that the model can be used with good results to predict the changes in market behavior. Using these predictions, the model can automatically adapt the trading signals in real-time to maximize the trading results. The paper will reveal the methodology to optimize and implement this model in automated trading systems. After tests, it is proved that this methodology can be applied with good efficiency in different timeframes. Real trading results will be also displayed and analyzed in order to qualify the methodology and to compare it with other models. As a conclusion, it was found that the price prediction model using the price cyclicality function is a reliable trading methodology for algorithmic trading in the financial market.

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