

Day 6 – Market Trace v1

Where liquidity concentrates

Liquidity concentrates in horizontal bands around discrete price levels, visible as bright, persistent stripes in the heatmap. These bands are symmetric around the evolving mid-price and are primarily formed by the market makers continuously reposting limit orders at fixed offsets from the current price. The persistence of these bands over time indicates stable liquidity provision rather than transient noise-driven depth.

How price moves through liquidity

The market price moves gradually through regions of high liquidity, rather than jumping abruptly. When price approaches a liquidity wall, its movement slows, often oscillating locally before breaking through. Once sufficient market pressure accumulates (from noise traders or the RL agent), the price consumes resting volume and transitions to the next liquidity band. This behavior resembles realistic price discovery, where depth acts as temporary resistance or support.

One anomaly to investigate

A notable anomaly is the dominance of the RL agent in driving directional price movement, which appears to overpower both noise traders and market makers over long horizons. This suggests an imbalance in agent impact, potentially due to:

- Market makers not managing inventory or adjusting spreads dynamically
- The RL agent trading without transaction costs or impact penalties
- Insufficient opposing order flow from noise traders

This imbalance should be investigated by introducing inventory constraints, adaptive spreads, or execution costs to prevent unilateral price control by a single agent.