



Plotting Impermanent Loss

The Problem

Accurately calculating impermanent loss is an extremely **complex** and **time-consuming** task. Because of this, most data providers calculate impermanent loss as an end-of-day aggregation. This is only an **estimation** of the actual loss and **skews** the value of assets and liquidity pool activity. We don't take shortcuts. We calculate impermanent loss and liquidity pool position at the **event level**, block by block. Our granularity is crucial to accurately assessing liquidity pool position and providing precise values to users. Instead of going through rows of data or calculations, a graph provides an immediate overview of how impermanent loss has fluctuated over the entire year.

Our Solution

We can provide a [visual representation](#) of the day-to-day changes in impermanent loss (in USD) for a specific liquidity provider. For this example, we will gather the data for the entire year of 2021 using provider address **0x0fd0489d5ccf0acc0cbe8a1f1e638e74cab5bd7** in the Uniswap v2 WBTC-WETH pool(**0xbbb2b8038a1640196fbe3e38816f3e67cba72d940**) by querying Amberdata's [Provider Historical Return](#) endpoint. Why is this important and valuable? Well, for many reasons:

- By plotting the day-to-day changes in impermanent loss, a liquidity provider (LP) can understand how their provided assets have performed over time. This could be a crucial metric for LPs to decide whether to continue their investment or withdraw and pursue other opportunities.
- By visualizing this data, an LP can make informed decisions on when to withdraw their liquidity. For example, if they see that impermanent loss is decreasing and nearing zero, they might decide to hold off on withdrawing in hopes that the loss will be minimized.
- Observing impermanent loss over a specific timeframe, like an entire year, allows LPs to understand the historical volatility and price relation of the assets in the pool. This can be valuable for new LPs trying to gauge the historical performance of the pool.
- If an LP is involved in multiple pools or is considering moving their funds to a different pool, they can use these visual representations to compare impermanent losses across different pools or tokens.
- A visual representation is simply easier to digest and understand than raw numbers. Trends, spikes, and patterns can be quickly identified. For example, if impermanent loss seems to spike at certain times of the year, it might be tied to broader market movements or specific events.

