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What is Astroport? An AMM or DEX?

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While the terms “Decentralized Exchange” (DEX) and “Automated Market Maker” (AMM) are often used interchangeably, there are subtle differences that will likely become more apparent as DeFi matures.

DEXs operate as neutral marketplaces where traders can swap assets without relying on a centralized intermediary. As their name implies, AMMs are a specific type of DEX that utilize automated market making pools with specific rules or algorithms. In other words, AMMs are a subset or type of DEX.



AMMs give liquidity providers (LPs) the ability to lock tokens into liquidity pools, which others can trade against 24/7. This liquidity is always “on” and can be traded on-chain without going through a centralized entity or intermediary. Since this liquidity lives on-chain, it can even be harnessed by other DEXs or aggregators.

Astroport’s AMM pools can also offer token rewards to LPs who lock and stake assets in a particular AMM pool. For example, on Astroport, project teams can reward LPs with their native tokens. They can also submit a governance proposal for their pools to receive Astroport’s governance tokens (ASTRO and ASTROC) for as long as their tokens are locked and staked in a given pool.

Alternative DEXs

Like Astroport, many DEXs exclusively use AMMs for liquidity, but it hasn’t always been that way. DeFi’s earliest DEXs first launched as Ethereum-based order books, which stored bids and asks on-chain. While the concept was promising, users had to pay fees for every interaction – including unfilled bids and asks. Market makers, which are used to posting bids and asks for free on centralized exchanges, struggled to stay profitable on Ethereum as many use scripts that post hundreds of bids and asks per minute.

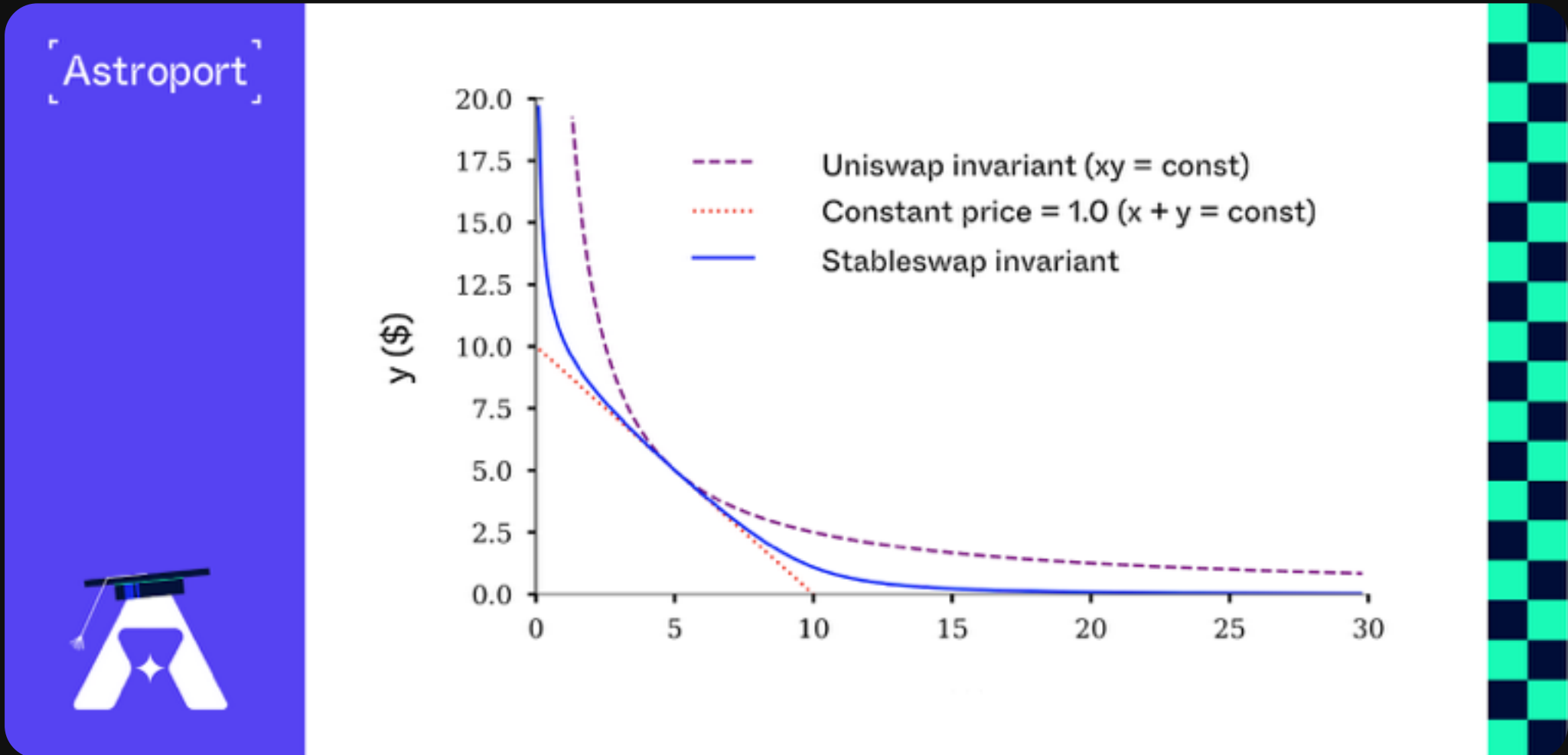
With the rise of Ethereum-based scaling solutions as well as Cosmos appchains and faster, cheaper Layer 1 (L1) blockchains, there’s renewed interest in on-chain order book-based DEXs, which can also incorporate liquidity from AMMs. Users can place bids and asks on a DEX. Then, on the backend, these orders compete with liquidity from multiple sources including AMMs. If an AMM offers better rates, it’s used to complete transactions. Likewise, if the order book offers better rates, it’s used.

This trend will likely accelerate as DEXs seek to offer more control, expressiveness and competitive pricing for traders.

AMM innovations

Today, Astroport offers two AMM vaults (or pool types) for LPs:

- **Constant product pools (CPP):** Using the simple $XY=K$ formula popularized by Uniswap v2, constant product pools are optimized for assets with uncorrelated prices. CPP’s proved a 0 to 1 moment for crypto, and helped kickoff the entire DeFi movement.
- **Stableswap invariant pools (SIP):** Using a constant sum formula ($R_x+R_y=k$), stableswap pools are optimized for assets such as stablecoins, which are designed to trade at the same price. Curve.fi, which uses SIPs, currently holds more liquidity (as denominated in dollars) than any other AMM including Uniswap.



Comparing common pool types.

However, there are many other promising AMM vaults or pool types including:

- Concentrated liquidity AMMs
- Balancer-style AMMs, which can combine up to eight tokens with a constant value market making algorithm
- Novel approaches such as virtual liquidity and shared liquidity AMMs (SLAMM), which were [proposed](#) by Delphi Labs

The future of DEXs and AMMs

With the collapse of centralized exchanges like FTX, which allegedly misused customer assets, DEXs offer a powerful alternative – one where the end user is not required to trust a third-party with their assets and can verify their holdings on-chain. That means users can put their trust in open-source code running on decentralized blockchains rather than corporations run by individuals and boards.

As more assets get tokenized, DEXs will likely grow in popularity and complexity by offering on-chain order books and more powerful order types including limit orders and stop losses. On the backend, AMMs can help supply liquidity to advanced DEXs in exotic new ways.

By already offering multiple AMM strategies in a single DEX, Astroport is at the forefront of this synergy. Haven’t used it yet? Teleport to [astroport.fi’s swap page](#) now.

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