

is a weekly collection of papers, articles and resources related to MEV. The intention of this letter is to provide a comprehensive summary of the latest research, discussions, and developments in the space, with links for further reading.

Papers & Articles

- [Notes on the LVR of FM-AMM](#) by [Ko Sunghun](#) show how [FM-AMMs](#), such as CoW-AMM, outperform CPMM, such as Uniswap V2, if transaction costs are low.
- [A Sandwich-Resistant AMM](#) by [Jarry Xiao](#), [Frankie](#), [0xShitTrader](#), and [Dan Robinson](#) outlines the construction of an AMM that makes atomic sandwich attacks unprofitable by preventing swaps from being filled at a price better than the initial slot window price.
- [Post](#) by [Umbra Research](#)
- [Thread](#) by [defi guy](#)
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- [Thread](#) by [defi guy](#)
- [A design for APS-burn in the context of a Decentralized L2](#) by [Simon Brown](#) presents an APS design for decentralized L2 with a sealed-bid auction to mitigate censorship and multi-block MEV.
- [TEEs on dYdX Chain - Research Report](#) by [Max Holloway](#) explores the potential of using TEEs for transaction privacy and reducing MEV on the [dYdX chain](#).
- [Rollup-Centric Considerations of Based Preconfirmations \(Part 1\)](#) by [CeciliaZ030](#) introduces [Gwyneth](#) as a prospective rollup design with based preconfirmations and synchronous composability.
- [Forum post](#) by [CeciliaZ030](#)
- [Thread](#) by [Taiko](#)
- [Forum post](#) by [CeciliaZ030](#)
- [Thread](#) by [Taiko](#)
- [‘HEH’: To the Reader who cares about Ethereum](#) by [juggernaut](#) examines the rise of [Banana Gun](#), and their exclusive order flow arrangement with [Titan Builder](#).
- [Titan Relay Incident Report: Withdrawals Root Validation Issue](#) by [Titan Relay](#) details an issue that allowed invalid headers to pass Titan Relay between June 17 and July 25, impacting an upper bound of 570 blocks.
- [Thread](#) by [Titan Relay](#)
- [Thread](#) by [Titan Relay](#)
- [In Search of OEV](#) by [Delphi Digital](#) explores the state of OEV on lending protocols and details the various OEV solutions by [API3](#), [UMA](#), and [Pyth Network](#).
- [Thread](#) by [Delphi Digital](#)
- [Thread](#) by [Delphi Digital](#)
- [The case for decentralization increasing efficiency is overstated](#) by [Nicholas Decker](#) discusses centralization in the builder market and the trade-offs between efficiency and decentralization.
- [ePBS Metagame: SSP peacekeeping and alternative public service](#) by [Maxwell Koegler](#) explores how ePBS and MEV-Burn might impact the builder market and proposer behavior.

Posts & Threads

- [Péter Szilágyi](#) published a [thread](#) to express concerns related to PeerDAS and the resulting increase in network load.
- [Reply](#) by [Vitalik Buterin](#)
- [Reply](#) by [Davide Crapis](#)
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- [Akaki Mamageishvili](#) published a [thread](#) summarizing their recent [paper](#) together with [Minghao Pan](#) and [Christoph Schlegel](#) on sybil-proof mechanisms.
- [Conor McMenamin](#) published a [thread](#) on the economic viability of preconfirmations and private orderflow.
- [Oxprincess](#) published a [thread](#) discussing the decline of on-chain DeFi due to the rise of intents, solvers, and CeDeFi protocols.
- [Ethan Buchman](#) published a [thread](#) based on [their talk](#) at [Modular Summit 3.0](#) on the topic of privacy using TEE, ZKP, MPC, and FHE.
- [Ethan Buchman](#) published a [thread](#) highlighting the benefits and challenges of TEE and how ZKPs, produced in the enclave, can mitigate side-channel attacks.
- [Pradyumna Shome](#) published a [thread](#) to discuss [The Flawed Design of Intel TDX](#) by [Julian Stecklina](#).
- [Nick Cannon](#) published a [post](#) describing various ways TEEs can make software more secure and trustless, based on the [talk](#) by [@socrates1024](#) at [Modular Summit 3.0](#)
- [Lyron Co Ting Keh](#) published a [post](#) arguing that TEEs are worth revisiting due to the developments made in the last five years.
- [Robert Miller](#) published a [thread](#) arguing that the need for PBS would remain even with multiple concurrent proposers.
- [Doug Colkitt](#) published a [post](#) highlighting the need for a spam-resistant deterministic merging algorithm to mitigate spam in a design with multiple concurrent proposers.
- [Toni Wahrstätter](#) published a [post](#) to highlight block propagation latency in Europe, US, and Australia.
- [Primev](#) published a [thread](#) to announce their new [Validator Dashboard](#) for [mev-commit](#).

Talks & Discussions

- [Usable ZK with Mads, episode 3](#) invites [@socrates1024](#) for a discussion on the misconceptions of TEEs and how to use them together with ZKP, MPC, and FHE.
- [Post](#) by [Madhavan Malolan](#)
- [Post](#) by [Madhavan Malolan](#)
- [The future of block proposal](#) at [Kiln Rendez-Vous EthCC 2024](#) with [Justin Drake](#), [Terence Tsao](#), [Alex](#), [Drew Van der Werff](#), and [Sébastien Rannou](#) explore the current state of PBS and how the space might evolve from here.
- [Impact of Self Built Blocks](#) by [Matt Cutler](#) at [Unaligned Day](#) details how locally built blocks increase base fee volatility.
- [The Infinite Jungle: The Surprising Truth About Self-Built Blocks](#) invites [Matt Cutler](#) to discuss how increased base fee volatility from locally built blocks impacts users.
- [Web3 Galaxy Brain: Credible Accounts](#) invites [Stephane Gosselin](#) for a discussion on the transaction supply chain, chain abstraction, credible auctions, and [OneBalance](#)
- [Post](#) by [nnnnicholas](#)
- [Post](#) by [nnnnicholas](#)
- [Transfer NFT/Tokens from Hacked Wallet with Flashbots | Rescue from Compromised Wallet](#) by [Uttam Singh](#) provides a step-by-step walkthrough of how to transfer remaining tokens from a compromised wallet using [ethers-provider-flashbots-bundle](#).
- [Post](#) by [Uttam Singh](#)
- [Post](#) by [Uttam Singh](#)

Other

- [Builder Playground](#) by [@ferranbt](#) and [@metachris](#) is a tool to deploy an end-to-end environment to locally test an Ethereum L1 builder.
- [Post](#) by [@ferranbt](#)
- [Post](#) by [@metachris](#)
- [Post](#) by [@ferranbt](#)
- [Post](#) by [@metachris](#)
- [Dark.Pool Researchathon: Privacy Tech for Building a Dark Pool in DeFi](#) by [@rezabfil](#) and [@Lilyjjo](#) shares a readout from [DarkPool.Design](#) on the tradeoffs between using TEE, ZKP, FHE, and MPC for dark pools.
- [Evm.monster](#) by [St1ng3R](#) helps debug EVM transactions and find smart contract vulnerabilities by analyzing the bytecode execution flow.
- [Thread](#) by [St1ng3R](#)
- [Thread](#) by [St1ng3R](#)
- [Mevboost-data](#) by [ZT](#) visualizes how block rewards and MEV are on average lower in the first slots of an epoch.
- [Post](#) by [ZT](#)
- [Post](#) by [ZT](#)

Upcoming events

- Aug 5

: [Astria Research Day](#) by [Astria](#)

- Aug 6

: [The MEV Workshop at the Science of Blockchain Conference 2024 \(MEV SBC '24\)](#) by [Flashbots](#) * [Post](#) by [@sarah.allen](#)

- [Post](#) by [@sarah.allen](#)

- Aug 7-9

: [The Science of Blockchain Conference 2024 \(SBC'24\)](#) by [IC3](#), [Stanford Center for Blockchain Research](#) and [UC Berkeley RDI](#).

- Aug 16-17

: [Frontiers](#) by [Paradigm](#) * [Thread](#) by [Georgios Konstantopoulos](#)

- [Thread](#) by [Georgios Konstantopoulos](#)

- Aug 20-27

: [MEV TOKYO](#) by [Titania Research](#)

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