The MEV Letter 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

- [Launching the PBS Foundation: Working Together to Keep Ethereum's Consensus Layer Decentralized](#) announces the pilot phase of [PBS Foundation](#) with the mission to spearhead research pertaining to PBS and provide infrastructure support for those committed to PBS.

- [Post](#) by [Eugene Leventhal](#)

- [Post](#) by [Consensys](#)

- [Post](#) by [Uniswap Foundation](#)

- [Post](#) by [Fenbushi Capital](#)

- [Thread](#) by [Coinbase Cloud](#)

- [Post](#) by [Eugene Leventhal](#)

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- [Post](#) by [Fenbushi Capital](#)

- [Thread](#) by [Coinbase Cloud](#)

- [Strategic Bidding Wars in On-chain Auctions](#) by [Fei Wu](#), [Thomas Thiery](#), [Stefanos Leonardos](#) and [Carmine Ventre](#) study how latency, orderflow, and auction design aspects affect bidding performance and strategy effectiveness in MEV-Boost.

- [Execution Tickets](#) by [Mike Neuder](#) and [Justin Drake](#) details a blockspace market for buying and selling Execution Tickets

that entitle the owner to propose future blocks. *[Post](#) by [Mike Neuder](#)

- [Thread](#) by [Alex Nezlobin](#)

- [Post](#) by [Mike Neuder](#)

- [Thread](#) by [Alex Nezlobin](#)

- [P2P.org's Staking & Infrastructure Report](#) by [P2P](#) gives an overview of the Ethereum infrastructure, including the current state of MEV, PBS, and L2 sequencing.

- [Thread](#) by [P2P](#)

- [Thread](#) by [P2P](#)

- [Empirical analysis of the impact of block delays on the consensus layer](#) by [mxs@kiln.fi](#) presents data on the impact of intentional, and non-intentional, delays by proposers.

- [The MEV Book: A Comprehensive Guide To Maximal Extractable Value](#) by [Tuukka Tuomikoski](#) and [Carlos Monteiro](#) dives into the history and current state of MEV, and explore the potential impact of SUAVE.

- [Thread](#) by [Tuukka Tuomikoski](#)

- [Audio-format](#) by [Monoceros](#)

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- [Audio-format](#) by [Monoceros](#)

- [Auctions: context, types of auctions, what is an auction from the Auction Theory Perspective and from the Mechanism Design Perspective, and EIP-1559 as a specific example](#) by [Lisa A](#). explore the applications and significance of auctions in blockchains.

- [Thread](#) by [Taiko](#)

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- [Reflections #4: Research Recap](#) by [Chorus One](#) gives a recap of their research published in 2023, covering topics such as cross-chain MEV, shared security, PBS and latency.

- [Timing Games and Implications on MEV extraction](#) by [Chorus One](#) provides a summary of [The cost of artificial latency in the PBS context](#)

by [Umberto Natale](#) that highlight observations and key results.

- [Analyzing BFT & Proposer-Promised Preconfirmations](#) by [Espresso Systems](#) analyze BFT preconfirmations and Proposer-Promised preconfirmations, both external and opt-in protocols run by L1 validators.

- [Thread](#) by [Espresso Systems](#)

- [Thread](#) by [Espresso Systems](#)

- [Unlocking PBS with CL Verification of "block.coinbase" (E.G. Multi Tx Flashloans)](#) by [Alex Watts](#) presents novel primitives that could be unlocked if builders would sign and prove the ownership of their block's coinbase address.

- [Post](#) by [Alex Watts](#)

- [Post](#) by [Alex Watts](#)

- [Espresso Systems and Offchain Labs release R&D roadmap for Decentralized Timeboost](#) by [Espresso Systems](#) presents a roadmap for the development of a decentralized version of Timeboost compatible with the Espresso Sequencer.

- [Thread](#) by [Espresso Systems](#)

- [Thread](#) by [Offchain Labs](#)

- [Space](#) with [Ed Felten](#) and [Ben Fisch](#)

- [Thread](#) by [Espresso Systems](#)

- [Thread](#) by [Offchain Labs](#)

- [Space](#) with [Ed Felten](#) and [Ben Fisch](#)

- [Introducing the Validator Gateway: Boost Your Ethereum Validator Rewards](#) by [bloXroute Labs](#) announce a new feature for proposers connected to bloXroute relays that adds an artificial delay in proposal duties to increase rewards.

- [Thread](#) by [bloXroute Labs](#)

- [Thread](#) by [bloXroute Labs](#)

- [What Does It Take To Be a Block Builder](#) by [Cryptic Woods](#) introduces [penguinbuild.org](#) and its vision to become the largest neutral block builder on Ethereum.

- [Loss versus Rebalancing 101](#) by [Alphaist](#) details the mechanisms of LVR, underlying causes and potential countermeasures.

- [Back-Testing Transaction Policies with Cryo & Analysis of Preventable DEX Slippage](#) by [Shield3](#) present a library for decoding transaction payloads to detect max slippage and calculate preventable slippage for swaps on Uniswap.

- [Thread](#) by [Isaac Patka](#)

- [Thread](#) by [storm](#)

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- [Thread](#) by [storm](#)

- [Timing Games - MEV CC 7](#) by [Data Always](#) provides a summary, transcript, and thoughts on the latest [MEV-Boost community call](#) with a focus on timing games.

Posts & Threads

- [bloXroute Labs](#) published an [announcement](#) to inform that their relays will no longer accept blocks that interact with addresses appearing on the OFAC SDN list.

- [Decentralizing Power & The Great Community](#) by [Andy](#) shares excerpts from The Public and Its Problems

by John Dewey and explore how these relate to the stories surrounding MEV and SUAVE.

- [aori ⊓](#) published a [thread](#) to announce the launch of their protocol on Arbitrum to connect CEX-DEX arbitrageurs, searchers, solvers, and market makers through a high-frequency order book.

- [Uniswap Foundation](#) published a [thread](#) that highlights supported research in 2023 on topics such as cross-chain MEV, pricing orderflow, and MEV estimation.

- [CoW DAO](#) published a [thread](#) that provides links and summaries of their talks at Devconnect Istanbul on topics such as LVR, MEV, and AMM design.

- [Alex Watts](#) published a [thread](#) on how SUAVE can improve smart wallets by enabling composable and programmable operation bundling.

- [Tarun Chitra](#) published a [thread](#) on the type of MEV that appears from a protocol that favors safety over liveness, and vice versa.

- [Chorus One](#) published a [thread](#) on [The cost of artificial latency in the PBS context](#)by [Umberto Natale](#) that details the implications of artificial latency in the MEV-Boost auction.

- [Titan Builder](#) published a [post](#) to notify searchers of a new feature being tested that allows searchers to specify the target position of their bundles within a block.

- [Spicypunk.eth](#) published a [thread](#) summarizing [their research](#) on the challenges with tracking historical CEX-DEX arbitrage, and findings from a two week case study between Osmosis and Binance.

- [Jünger](#) published a [post](#) on how SGX can be used in multi-proof systems alongside cryptographic proofs, as a way to diversify and minimize potential errors and vulnerabilities.

- [Blocknative](#) published a [thread](#) to highlight new features of[Ethernow](#), including a filter for private transactions and enhancements to their historical mempool archive.

- [API3](#) published a [thread](#) that details a large liquidation that followed an oracle price update to highlight the lack of a mechanisms that can redistribute this value.

Talks & Discussions

- [Recordings](#) from [censorship.wtf](#) by [T](#)&[T](#) have been uploaded, the event explored censorship resistance across the Ethereum stack and beyond, with speakers presenting from both Istanbul and Prague.

- [Recordings](#) from [Good INTENT-ions](#) by [Brink](#) have been uploaded with talks on intent-based architectures, MEV, cross-chain intents, and more.

- [Cow Swap: Gasless Transactions, MEV Protection, The Best Priced Swaps](#)by [blocmates](#) invites [Anna George](#) to discuss MEV protection, meta-aggregation, intents, and RFQ-systems.

- [Bell Curve](#): [DEXs: Minimizing MEV, Fee Market Developments, and Superior DEX Designs](#)with [Michael Ippolito](#) and [Dan Robinson](#) recap their latest season and discuss key themes such as MEV mitigation in DEX design, fee market structures, and Uniswap v4.

- [Scraping Bits](#):

- [MEV Searcher Commericalization; Competing With UniswapX's Orderbook](#) invites [Joshua Baker](#) to dive into CEX-DEX arbitrage, searcher commercialization, UniswapX, and [Aori](#).

- [MEV Chokepoint: Relaying 42% Of All Blocks On Ethereum To Validators](#)invites [Uri Klarman](#) to discuss MEV, the current state of PBS, operating MEV-Boost relays, and the broader implications for Ethereum users and validators.

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- [Protect Yourself Against MEV Sandwich Attacks](#) hosted by [Jen](#) invites [Sophie Liu](#) and [Mark Richardson](#) to provide an overview of sandwich attacks and what users can do to protect themselves.

- [StarknetCC](#): [Encrypted mempool and shared sequencers](#) by [AJ Park](#) explore how developers can build L3s on Starknet using encrypted mempools and shared sequencers.

Other

- [MEV-Share Atomic Arbooors](#) by [Flashbots](#) provides insights into the activity and profitability of searchers performing atomic arbitrage via [MEV-Share](#).

- [Atomic Arbitrages](#) by [hildobby](#) presents data on atomic arbitrage performed on Ethereum and 9 other EVMs.

- [Thread](#) by [hildobby](#)

- [Thread](#) by [storm](#)

- [Thread](#) by [hildobby](#)

- [Thread](#) by [storm](#)

- [libMEV](#) by [Cryptic Woods](#) now includes data on [block builders'](#) market share and profits.

- [Primo Data](#) is a directory of blockchain data resources.

- [Post](#) by [Primo Data](#)

- [Thread](#) by [storm](#)

- [Post](#) by [Primo Data](#)

- [Thread](#) by [storm](#)

- [Sandwich Detector](#) by [EigenPhi](#) is a Telegram mini-app that allows users to search and determine if an address has been sandwiched on Ethereum and BSC in the past 30 days.

- [Post](#) by [EigenPhi

](https://twitter.com/eigenphi)

- [Post](#) by [EigenPhi

](https://twitter.com/eigenphi)

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