

# Mahesh K Varanasi

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/807202/publications.pdf>

Version: 2024-02-01

60  
papers

834  
citations

1040056

9  
h-index

642732

23  
g-index

60  
all docs

60  
docs citations

60  
times ranked

429  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | The Degree-of-Freedom Regions of MIMO Broadcast, Interference, and Cognitive Radio Channels With No CSIT. IEEE Transactions on Information Theory, 2012, 58, 5354-5374.     | 2.4 | 150       |
| 2  | The Degrees of Freedom Region and Interference Alignment for the MIMO Interference Channel With Delayed CSIT. IEEE Transactions on Information Theory, 2012, 58, 4396-4417. | 2.4 | 126       |
| 3  | Interference alignment under limited feedback for MIMO interference channels. , 2010, , .   |     | 102       |
| 4  | Interference Alignment Under Limited Feedback for MIMO Interference Channels. IEEE Transactions on Signal Processing, 2013, 61, 3908-3917.                                  | 5.3 | 70        |
| 5  | The degrees of freedom region of the two-user MIMO broadcast channel with delayed CSIT. , 2011, , .   |     | 59        |
| 6  | The Capacity Region of the MIMO Interference Channel and Its Reciprocity to Within a Constant Gap. IEEE Transactions on Information Theory, 2013, 59, 4781-4797.            | 2.4 | 45        |
| 7  | The Generalized Degrees of Freedom Region of the MIMO Interference Channel and Its Achievability. IEEE Transactions on Information Theory, 2012, 58, 7188-7203.             | 2.4 | 40        |
| 8  | The diversity-multiplexing tradeoff of the MIMO Z interference channel. , 2010, , .   |     | 17        |
| 9  | The Degrees-of-Freedom Region of the MIMO Interference Channel With Shannon Feedback. IEEE Transactions on Information Theory, 2013, 59, 4798-4810.                         | 2.4 | 17        |
| 10 | The degrees of freedom of the $2\tilde{A}-2\tilde{A}-2$ interference network with delayed CSIT and with limited Shannon feedback. , 2011, , .                               |     | 13        |
| 11 | Beamforming and aligned interference neutralization achieve the degrees of freedom region of the $2\tilde{A};2\tilde{A};2$ MIMO interference network. , 2012, , .           |     | 13        |
| 12 | On the Geometry and Quantization of Manifolds of Positive Semi-Definite Matrices. IEEE Transactions on Signal Processing, 2013, PP, 1-1.                                    | 5.3 | 13        |
| 13 | Degrees of Freedom of the MIMO Z-Interference Channel With Delayed CSIT. IEEE Communications Letters, 2015, 19, 2282-2285.  | 4.1 | 11        |
| 14 | The Diversity-Multiplexing Tradeoff of the MIMO Half-Duplex Relay Channel. IEEE Transactions on Information Theory, 2012, 58, 7168-7187.                                    | 2.4 | 9         |
| 15 | CSI feedback scaling rate vs multiplexing gain tradeoff for DPC-based transmission in the Gaussian MIMO broadcast channel. , 2010, , .                                      |     | 8         |
| 16 | The diversity-multiplexing tradeoff of the symmetric MIMO 2-user interference channel. , 2010, , .  |     | 8         |
| 17 | The degrees of freedom region of the MIMO cognitive interference channel with no CSIT. , 2010, , .  |     | 8         |
| 18 | Capacity of the MIMO interference channel to within a constant gap. , 2011, , .   |     | 8         |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 19 | The generalized degrees of freedom of the MIMO interference channel. , 2011, , .  |     | 7         |
| 20 | The generalized multiplexing gain region of the slow fading MIMO interference channel and its achievability with limited feedback. , 2012, , .  |     | 7         |
| 21 | A Unifying Order-Theoretic Framework for Superposition Coding: Polymatroidal Structure and Optimality in the Multiple-Access Channel With General Message Sets. IEEE Transactions on Information Theory, 2017, 63, 21-37. | 2.4 | 7         |
| 22 | Rate splitting and superposition coding for concurrent groupcasting over the broadcast channel: A general framework. , 2017, , .  |     | 7         |
| 23 | The Degrees of Freedom Region of the MIMO Interference Channel With Hybrid CSIT. IEEE Transactions on Wireless Communications, 2015, 14, 1837-1848.   | 9.2 | 6         |
| 24 | Degrees of Freedom of the Two-User MIMO Broadcast Channel with Private and Common Messages Under Hybrid CSIT Models. IEEE Transactions on Information Theory, 2017, , 1-1.  | 2.4 | 6         |
| 25 | The Generalized Degrees of Freedom Region of the MIMO Z-Interference Channel With Delayed CSIT. IEEE Transactions on Information Theory, 2018, 64, 531-546.   | 2.4 | 6         |
| 26 | The Degrees of Freedom Region of the $\mathbb{R}^{2 \times 2}$ MIMO Interference Network. IEEE Transactions on Information Theory, 2014, 60, 7751-7759.   | 2.4 | 5         |
| 27 | The Generalized Diversity-Multiplexing Tradeoff of the MIMO Z Interference Channel. IEEE Transactions on Information Theory, 2015, 61, 3427-3445.   | 2.4 | 5         |
| 28 | Degrees of Freedom Region of the MIMO Z-Interference Channel With Mixed CSIT. IEEE Communications Letters, 2016, 20, 2422-2425.   | 4.1 | 5         |
| 29 | MIMO performance under covariance matrix feedback. , 2011, , .  |     | 4         |
| 30 | The Degrees of Freedom of MIMO Networks With Full-Duplex Receiver Cooperation but no CSIT. IEEE Transactions on Information Theory, 2014, 60, 5587-5596.  | 2.4 | 4         |
| 31 | On the capacity region of the K-user discrete memoryless broadcast channel with two degraded messages. , 2017, , .  |     | 4         |
| 32 | An Achievable Rate Region for the K-Receiver Two Nested Groupcast DM Broadcast Channel and a Capacity Result for the Combination Network. , 2018, , .   |     | 4         |
| 33 | Finite-rate feedback of input covariance matrices in MIMO systems. , 2010, , .  |     | 3         |
| 34 | Can feedback increase the degrees of freedom of a wireless network with delayed CSIT?. , 2011, , .  |     | 3         |
| 35 | Bounds on the Capacity Region for a Class of Interference Channels With Common Information. IEEE Transactions on Information Theory, 2013, 59, 4811-4818.   | 2.4 | 3         |
| 36 | Bounds on the capacity region of a class of multiple access interference channels. , 2013, , .  |     | 3         |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 37 | On the Generalized Degrees of Freedom of the MIMO Interference Channel With Delayed CSIT. IEEE Transactions on Information Theory, 2019, 65, 3261-3277.   | 2.4 | 3         |
| 38 | A large-system analysis of the imperfect-CSIT Gaussian broadcast channel with a DPC-based transmission strategy. , 2010, , .  |     | 2         |
| 39 | The degrees of freedom region of the MIMO interference channel with delayed CSIT. , 2011, , .   |     | 2         |
| 40 | The $K$ -User Vector Gaussian Multiple-Access Channel With General Messages Sets: Capacity, Polymatroidal Structure, and Efficient Computation. IEEE Transactions on Information Theory, 2017, 63, 3875-3893. | 2.4 | 2         |
| 41 | Hierarchical Successive Group Decoding Achieves Capacity in the Multiple Access Channel With General Message Sets. IEEE Transactions on Information Theory, 2018, 64, 4562-4580.                              | 2.4 | 2         |
| 42 | The Symmetric Capacity of the $K$ -Receiver Interleaved Broadcast Channel with Symmetric Side Information. , 2019, , .  |     | 2         |
| 43 | The Exact Capacity-Memory Tradeoff for Caching with Uncoded Prefetching in the Two-Receiver Gaussian Broadcast Channel. , 2019, , .   |     | 2         |
| 44 | Capacity Results for Classes of Partially Ordered $K$ -User Broadcast Channels With Two Nested Multicast Messages. IEEE Transactions on Information Theory, 2020, 66, 65-81.                                  | 2.4 | 2         |
| 45 | The capacity region of the symmetric Gaussian interference channel with common information to within a constant gap. , 2011, , .  |     | 1         |
| 46 | Retro-cooperative interference alignment and the DoF region of the $(M,N)$ interference network with limited Shannon feedback. , 2012, , .  |     | 1         |
| 47 | The Degrees of Freedom of Two-Unicast Layered MIMO Interference Networks With Feedback. IEEE Transactions on Information Theory, 2015, 61, 3316-3325.   | 2.4 | 1         |
| 48 | Degrees of freedom region of the MIMO two-transmit, two-receive network with General message sets. , 2015, , .  |     | 1         |
| 49 | The degrees of freedom region of the 3-User MIMO cyclic Z-interference channel with perfect and delayed CSIT. , 2015, , .   |     | 1         |
| 50 | Degrees of Freedom of the MIMO $2 \times 2$ Interference Network with General Message Sets. IEEE Transactions on Information Theory, 2017, , 1-1.   | 2.4 | 1         |
| 51 | Feasibility of Single-Beam Interference Alignment in Multi-Carrier Interference Channels. IEEE Transactions on Information Theory, 2017, 63, 7352-7357.   | 2.4 | 1         |
| 52 | The Capacity Region of the Three-Receiver Less Noisy Broadcast Channel with Message Cognition. , 2018, , .  |     | 1         |
| 53 | A Unified Theory of Multiple-Access and Interference Channels via Approximate Capacity Regions for the MAC-IC-MAC. IEEE Transactions on Information Theory, 2019, 65, 1898-1920.                              | 2.4 | 1         |
| 54 | Diamond Message Set Groupcasting: From an Achievable Rate Region for the DM Broadcast Channel to the Capacity of the Combination Network. , 2020, , .   |     | 1         |

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 55 | An Upper Bound on the Capacity-Memory Tradeoff of Interleavable Discrete Memoryless Broadcast Channels with Uncoded Prefetching. , 2020, , .   |     | 1         |
| 56 | Independent Signaling Achieves the Capacity Region of the Gaussian Interference Channel With Common Information to Within One Bit. IEEE Transactions on Information Theory, 2014, 60, 6070-6079. | 2.4 | 0         |
| 57 | The Degrees of Freedom of the $K$ -User MIMO Cyclic $Z$ -Interference Channel Under Perfect and Delayed CSIT Assumptions. IEEE Transactions on Wireless Communications, 2017, 16, 17-25.         | 9.2 | 0         |
| 58 | Capacity Results via Message Merging and Superposition Coding in the $K$ -Receiver Broadcast Channel with General Message Sets. , 2019, , .  |     | 0         |
| 59 | On the Capacity Region of the Three-Receiver Broadcast Channel With Receiver Message Cognition. , 2020, , .  |     | 0         |
| 60 | Constant-Gap-to-Capacity and Generalized Degrees of Freedom Regions of the MIMO MAC-IC-MAC. IEEE Transactions on Information Theory, 2020, 66, 2198-2218.  | 2.4 | 0         |