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Algorithms for the Construction of Incoherent Frames Under Various Design Constraints

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Highlights

- Incoherent sets of vectors have many applications in signal processing: wireless communications, sparse representations etc.
- We propose optimization strategies to build sets of incoherent frames where the vector entries also obey additional constraints
- We construct sets of incoherent frames where the entries are sparse, unital and positive for both the real-valued and complex-valued cases
- We propose an optimization algorithm to select rows of unital matrices (like the Fourier and Hadamard) that are highly incoherent

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