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*Constructing covering arrays from interleaved sequences*

Interleaved sequences over a finite field in array form have columns that are either zero columns or phase shifts of a shorter sequence. Shift sequences give a compact representation of an interleaved sequence, given the base sequence. We are interested in whether sequences that are useful for building covering arrays can be lengthened through the choice of an appropriate shift sequence. We give some preliminary results on what properties of base sequences are preserved in the interleaved sequence, discuss an equivalence relation on shift sequences to reduce the search space, and finally show some potential usefulness of the construction.