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Sequence Covering Arrays

In some processes, if certain t -subsets of events do not occur in the correct order, then this can cause unpredictable behaviours and misleading results. In a test suite, each occurrence of t events must be tested in every possible ordering. Such a test suite is equivalent to a sequence covering array, $\text{SeqCA}(N; t, k, v, \lambda)$, a set of N k -sequences on v events ($k \leq v$) for which every subsequence of t events ($t \leq k$) appears in at least λ of the sequences. We will discuss some recent existence results for the case $t = 2$. Joint work with Andrea Burgess and Peter Danziger.