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A new source of seed pairs for Golay sequences of length 2^m

Golay complementary sequence pairs have found application in many areas of digital information processing since their introduction by Golay in 1951. Two of the main questions in the study of Golay sequences are: for what lengths does a Golay sequence pair exist, and how many distinct Golay sequences and Golay sequence pairs of a given length are there? In this talk, we discuss the discovery of new 6-phase length 16 Golay sequences. We explain the origin of these sequences and how they are only the second known nontrivial seed pairs that can be used in the construction of new infinite families of Golay sequences having length a power of 2.