1038-94-323 Sergio R López-Permouth* (lopez@ohio.edu), 321 Morton Hall, Department of Mathematics, OhioUniversity, Athens, OH 45701, and Benigno R Parra-Avila (parra@math.ohiou.edu), 321 Morton Hall, Department of Mathematics, Ohio University, Athens, OH 45701. Sequential Codes. Preliminary report.

We introduce the notion of a right (left) sequential code, a natural generalization of cyclic, negacyclic and even constacyclic codes. A truncation of a cyclic code over a (possibly infinite) field F is both left and right sequential (bisequential). The converse holds if and only if F is algebraic over F_p , for some prime p. So, in particular, bisequential codes over finite fields are precisely the truncations of cyclic codes. A cyclic code of minimal length that extends a bisequential code C is called its cyclic hull. While the dual of a cyclic code is also cyclic, bisequential codes may have non-bisequential duals. In this presentation we explore the structure of strongly bisequential codes, namely those bisequential codes whose dual is also bisequential. We also show explicit ways to obtain sequential codes as well as examples of optimal sequential codes. (Received February 12, 2008)