1003-05-498 **Matthew T Elder*** (`HappyMutant@gmail.com`), USC, PO Box 81010, Columbia, SC 29208.
Complement-Regular Gray Codes.

A *Gray code* on n bits is a cyclic ordering of the 2^n n-bit words in which any two consecutive words differ by only one bit, including the first and last words. Alternately, this can be viewed as a Hamiltonian cycle in the n-cube. A *complement-regular* Gray code also has the property that any word and its complement are some constant Δ elements apart in the ordering. Here, we address the question of determining for which (n, Δ) pairs complement-regular Gray codes exist. We show that only one such pair exists for any odd n, and construct several classes of Gray codes for even n. (Received September 17, 2004)