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Manabu Hagiwara*, Dept. of Mathematics, Univ. of Hawaii, C/O J.B. Nation, 2565 McCarthy Mall, Honolulu, HI 96822. *Graphical construction of permutation code.*

Recently, Wadayama found the fundamental theorem on decoding method of permutation code by using Linear Programming technique. The decoding method shall be ML-decoding for a sub-polytope of Birkhoff polytope if the vertex set of the sub-polytope is a subset of permutation matrices. However, in general, it is difficult to construct such a nice sub-polytope. In this talk, a construction method of a class of such nice sub-polytope by using a graph will be discussed. Hence a new class of permutation code is obtained. (Received December 10, 2011)