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Optimal ternary constant-composition codes with weight four and distance six.

Summary: The sizes of optimal constant-composition codes of weight three have been determined by Y. M. Chee et al. [IEEE Trans. Inf. Theory 54, No. 8, 3552–3564 (2008; Zbl 1181.94123)] with four cases in doubt. Group divisible codes played an important role in their constructions. In this paper, we study the problem of constructing optimal ternary constant-composition codes with Hamming weight four and minimum distance six. The problem is solved with a small number of lengths undetermined. The previously known results are those with code length no greater than 10.

Keywords: constant-composition codes; group divisible codes; ternary codes
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