Blakley, G. R.; Borosh, I.; Klappenecker, A.
Constructions and categories of codes. (English) [Zbl 0963.94002]

Summary: G. R. Blakley and I. Borosh [Contrib. Gen. Algebra 10, 1-29 (1998; Zbl 0897.94001)] introduced a general theory of codes, encompassing cryptographic and error control codes among others. They explored the properties of such general codes with methods from relational algebra and set theory. We provide a categorical point of view, which leads to new constructions of codes. We also exhibit a Jordan-Hölder type theorem and a Schreier refinement technique.

For the entire collection see [Zbl 0941.00050].

MSC:
94A05 Communication theory
94B99 Theory of error-correcting codes and error-detecting codes
18A30 Limits and colimits (products, sums, directed limits, pushouts, fiber products, equalizers, kernels, ends and coends, etc.)