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**Vectorizing computations at decoding of nonbinary codes with small density of checks.**  
(English. Russian original) [Zbl 1355.94097](#)  
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Summary: A modification of the decoding *q*-ary Sum Product Algorithm (*q*-SPA) was proposed for the nonbinary codes with small check density based on the permutation matrices. The algorithm described has a vector realization and operates over the vectors defined on the field  $GF(q)$ , rather than over individual symbols. Under certain code parameters, this approach enables significant speedup of modeling.

**MSC:**

[94B60](#) Other types of codes

**Full Text:** [DOI](#)

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