

## **Sliding-sweep soft-decoding of nonbinary linear block codes**

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### **Abstract**

A backward (BW) algorithm to generate the optimum syndrome trellis for soft-decision decoding of non-binary linear block codes is proposed. The BW-algorithm is an inherent part of the elaborated sliding-sweep method to simplify the a posteriori probabilities (APP) calculus. Decision making is based on log-likelihood ratio (LLR).

*Keywords: syndrome trellis, non-binary linear blocks, decoding, sliding-sweep method*

### **References**

1. Johansson T., Zigangirov K. A simple one-sweep algorithm for optimal APP symbol decoding of linear block codes // IEEE Trans. on Information Theory. 1998. Vol. 44. No. 7. P. 3124-3129.

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2. Johansson T., Trofimov: A One-sweep APP decoding algorithm for binary block codes with reduced trellis memory // Proceedings of coding theory days in St. Petersburg, 2008. P. 88-93.

[Google Scholar](#)