

Your new problems on coding.

Problem 23. Why do you asserts, that MTD is preferential in all cases of applications, whereas it agrees to the publications can to be used only in channels with the ratio $E_b/N_0 > 2$ dB?

The reply. Actually we state the following.

1. Among non-concatenated circuits MTD is now already **for ever absolute leader** on number of operations in software versions and on throughput in hardware versions. The published simple MTD versions really work at $E_b/N_0 > 2$ dB, if a code rate is $R \sim 1/2$. Read about it stuffs of our web-site www.mtdbest.iki.rssi.ru, articles, books, our reference book on noiseproof coding. By the way, it is the very good characteristics. They are better, than for classic **concatenated** (!) scheme of Viterbi Algorithm (AV) with Read - Solomon (RS) codes. Certainly, taking into account a very admissibility of broad exchange relations in MTD between redundancy, delay, volume of indispensable memory and number of operations in this case delay of the decision for MTD will be rather large. For high-velocity channels this inessential fact and most exact solution.

2. After the solution of patent problems the characteristics more effective on energetic efficiency non-concatenated MTD will be published.

3. All effective decoders, for which ones the code gain (CG) is a very high, are concatenated circuits. Concatenated MTD versions also has notably higher CG. The conforming publications are preparing too. Here again at first it is necessary to decide problems of patenting of these developments. Thus the high throughput of data processing in MTD the decoder will be saved also.

4. The concrete orders on MTD are received and are fulfilled quickly with parameters of CG, close to best turbo codes. The high speed of processing will be provided due to a large delay. But the alternative versions are possible also.

5. All software MTD versions are truly faster than other algorithms approximately at 2 decimal order. To catch up MTD on this complexity parameter it is already impossible for any other methods.

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Let's remind, that the principles of MTD operation - are very simple and understandable (by the way, they are completely published). Manufacturing and testing MTD - specially simple problem in connection with high homogeneity of the scheme at a hardware representation (or it literally some lines of the program of summation of checks - and that's all!). Therefore attractiveness and accessibility of MTD methods becomes reasonable else more.

Also do not forget, please, that for effective decoders it is necessary to create new modems, which ones work stable at much more high level of a noise, than it was necessary still 10-15 years back.

All perspectives - are with us!