

*Series Editor*  
*Pierre-Noël Favennec*

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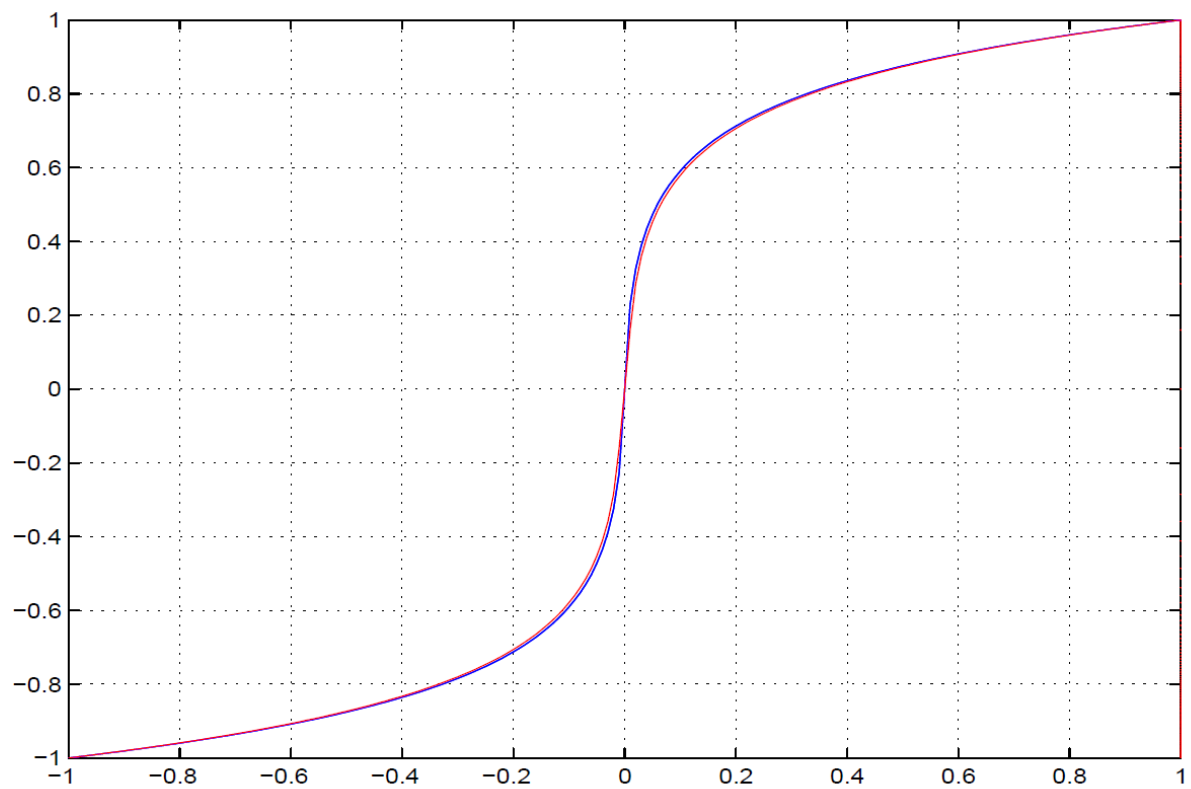
# **Digital Communications 1**

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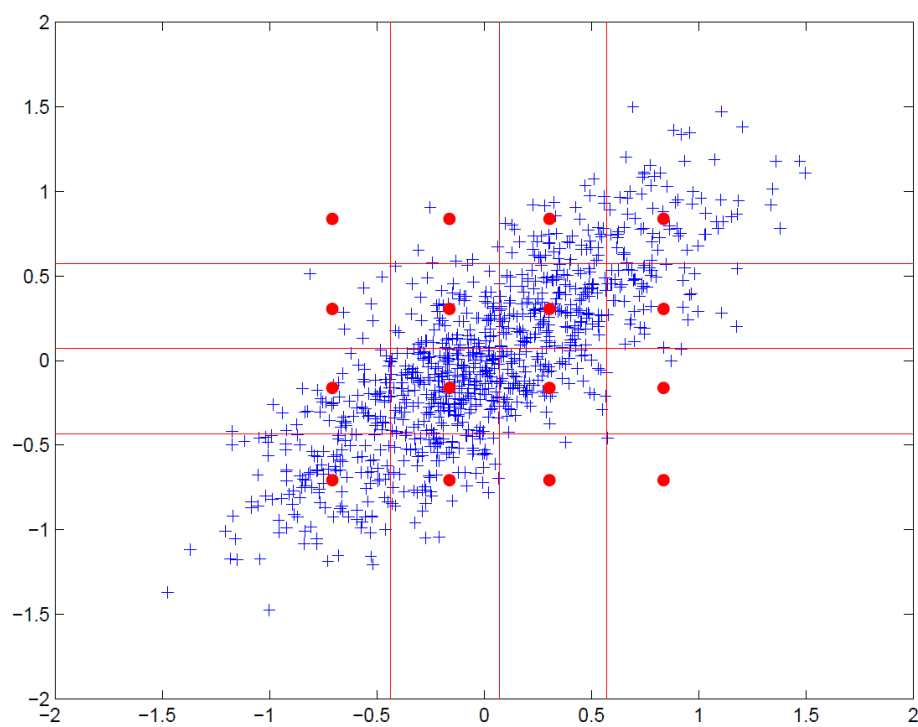
*Source and Channel Coding*

**Color Section**

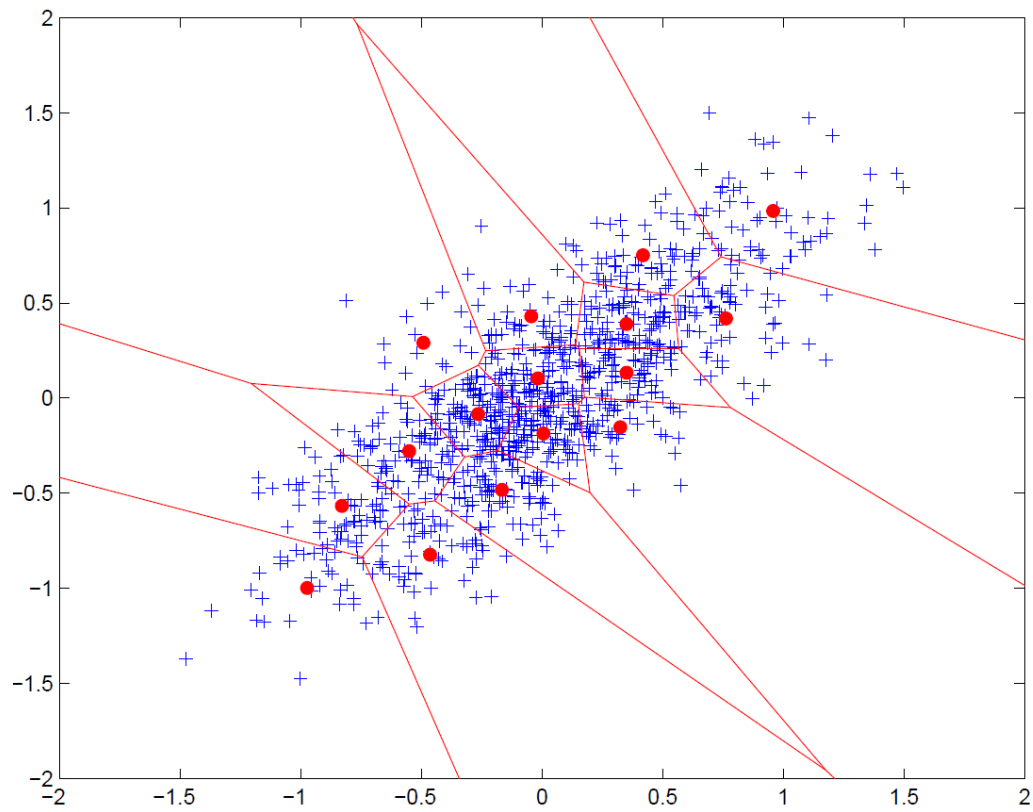
Didier Le Ruyet  
Mylène Pischella



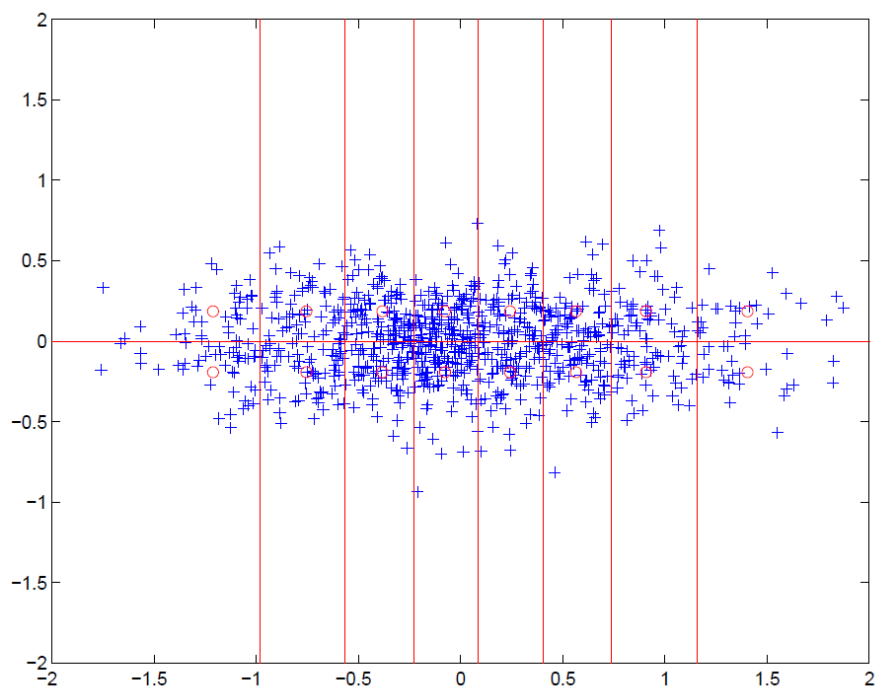
**Figure 2.13.** *A law and  $\_law$ .*



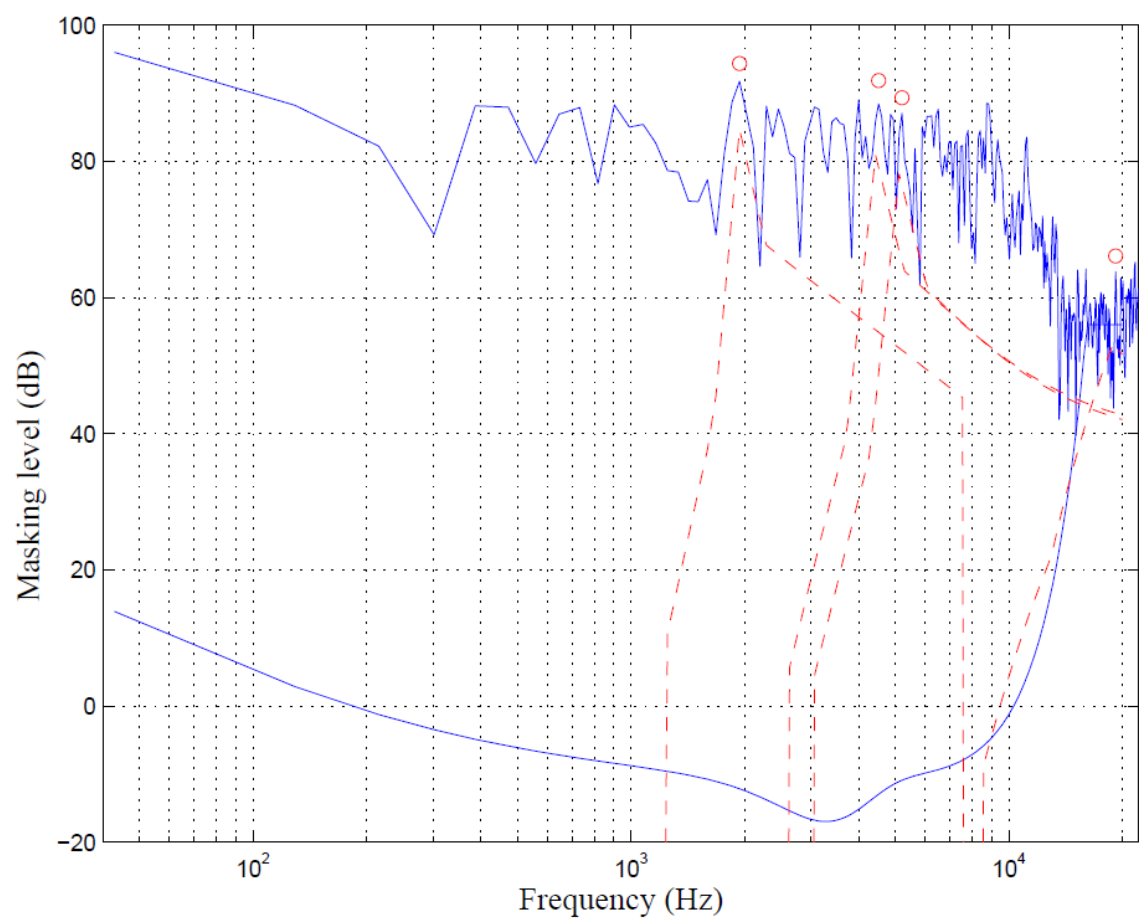
**Figure 2.16.** *Example of scalar quantization.*



**Figure 2.17.** *Example of vector quantization.*



**Figure 2.26.** *Example of scalar quantization after a Karhunen-Loève transform.*



**Figure 2.34.** *Masking level in frequency.*

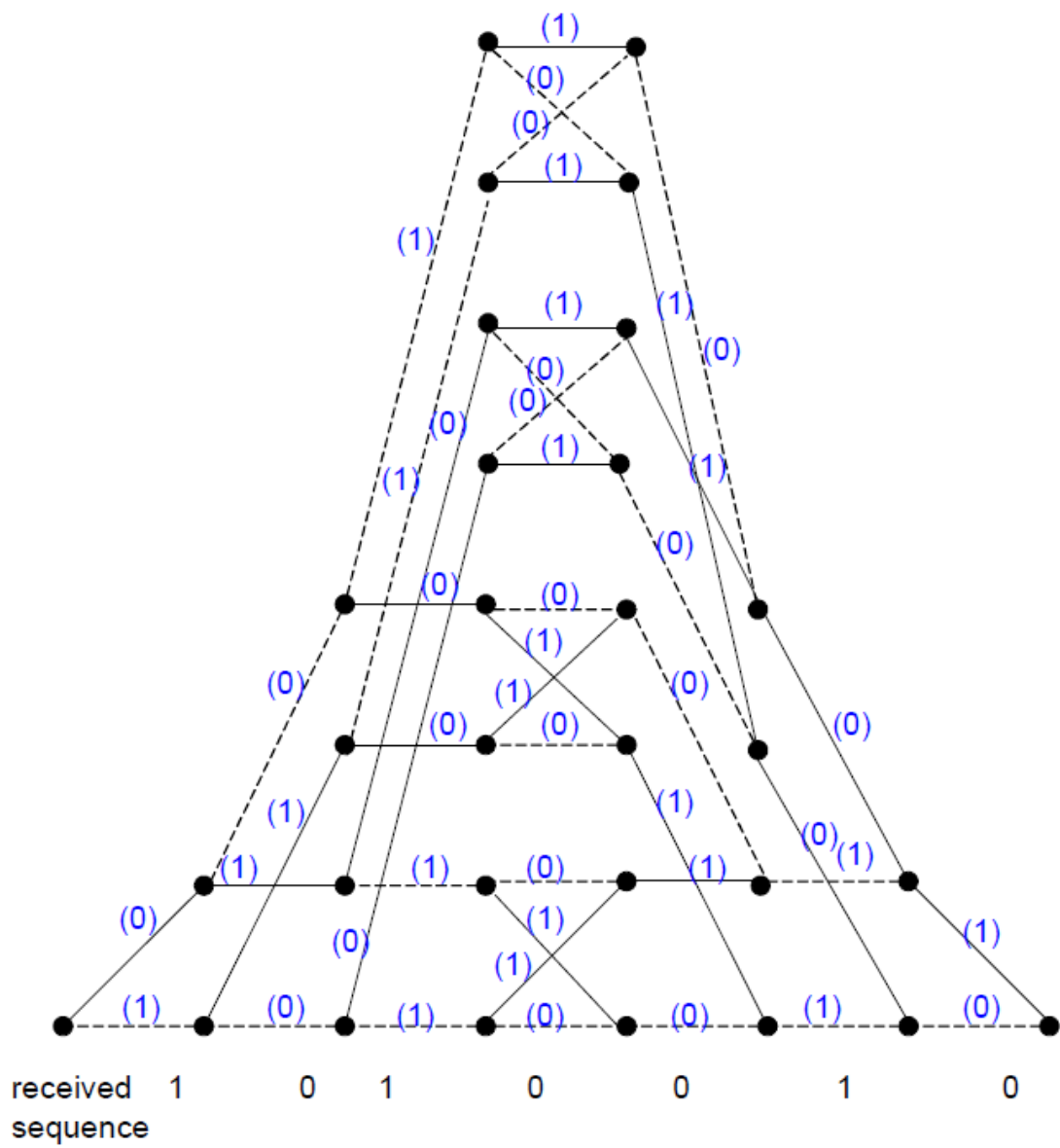
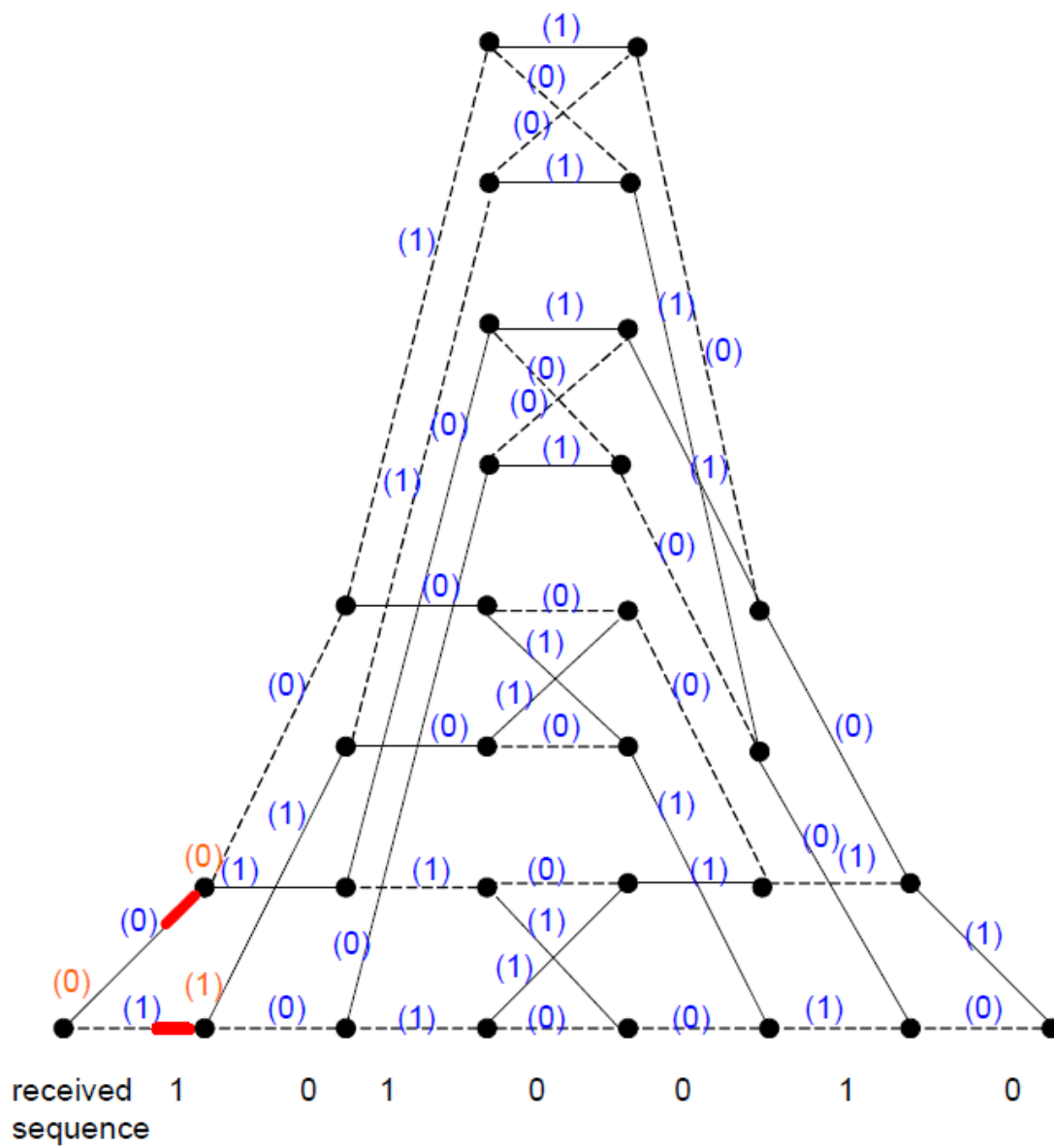
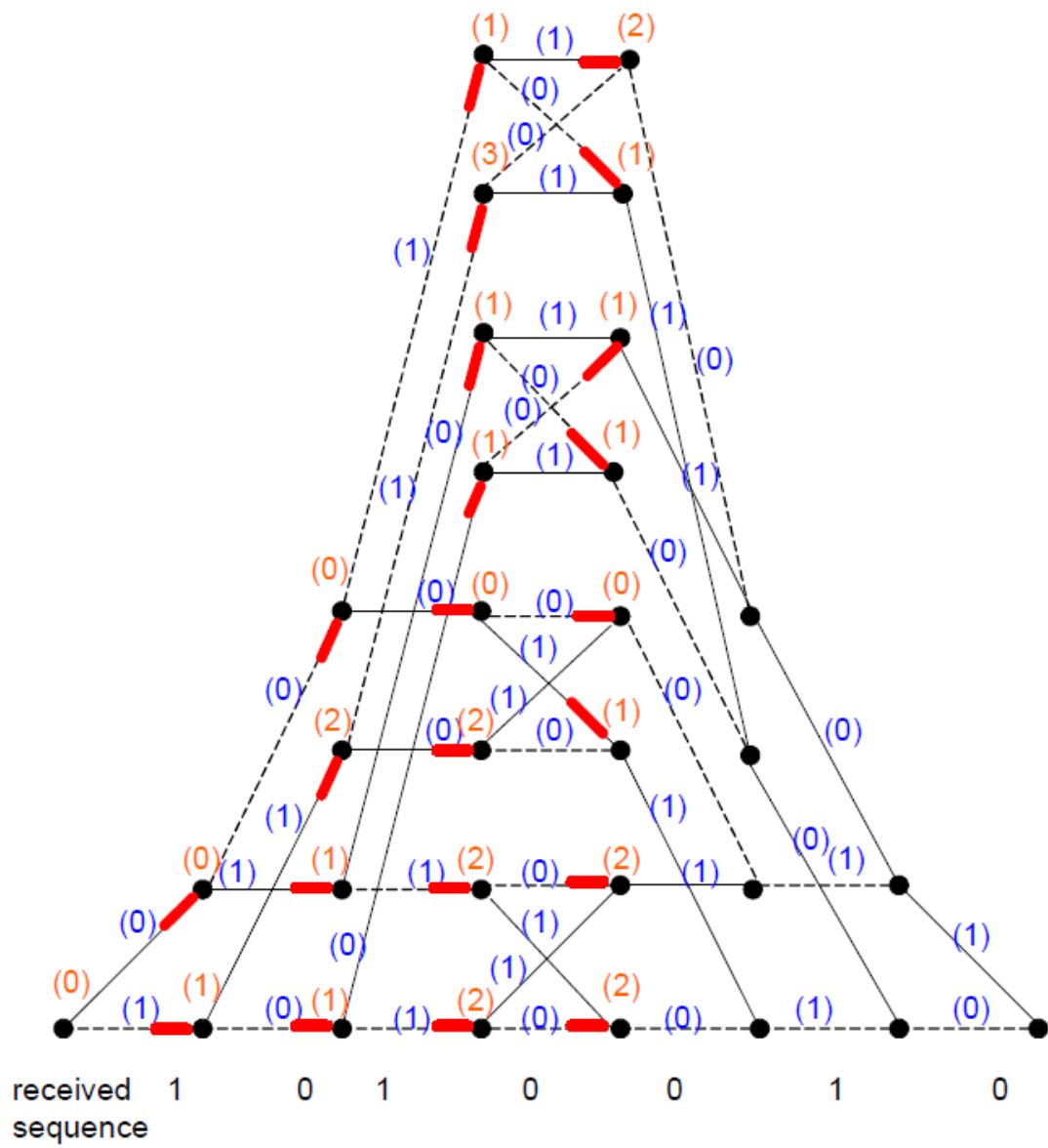


Figure 3.13. Branch metric calculation.



**Figure 3.14.** Cumulated metric calculation after the reception of the 1<sup>st</sup> bit of the word  $r$ .



**Figure 3.15.** Cumulated metric calculation after the reception of the 4<sup>th</sup> bit of the word  $r$ .

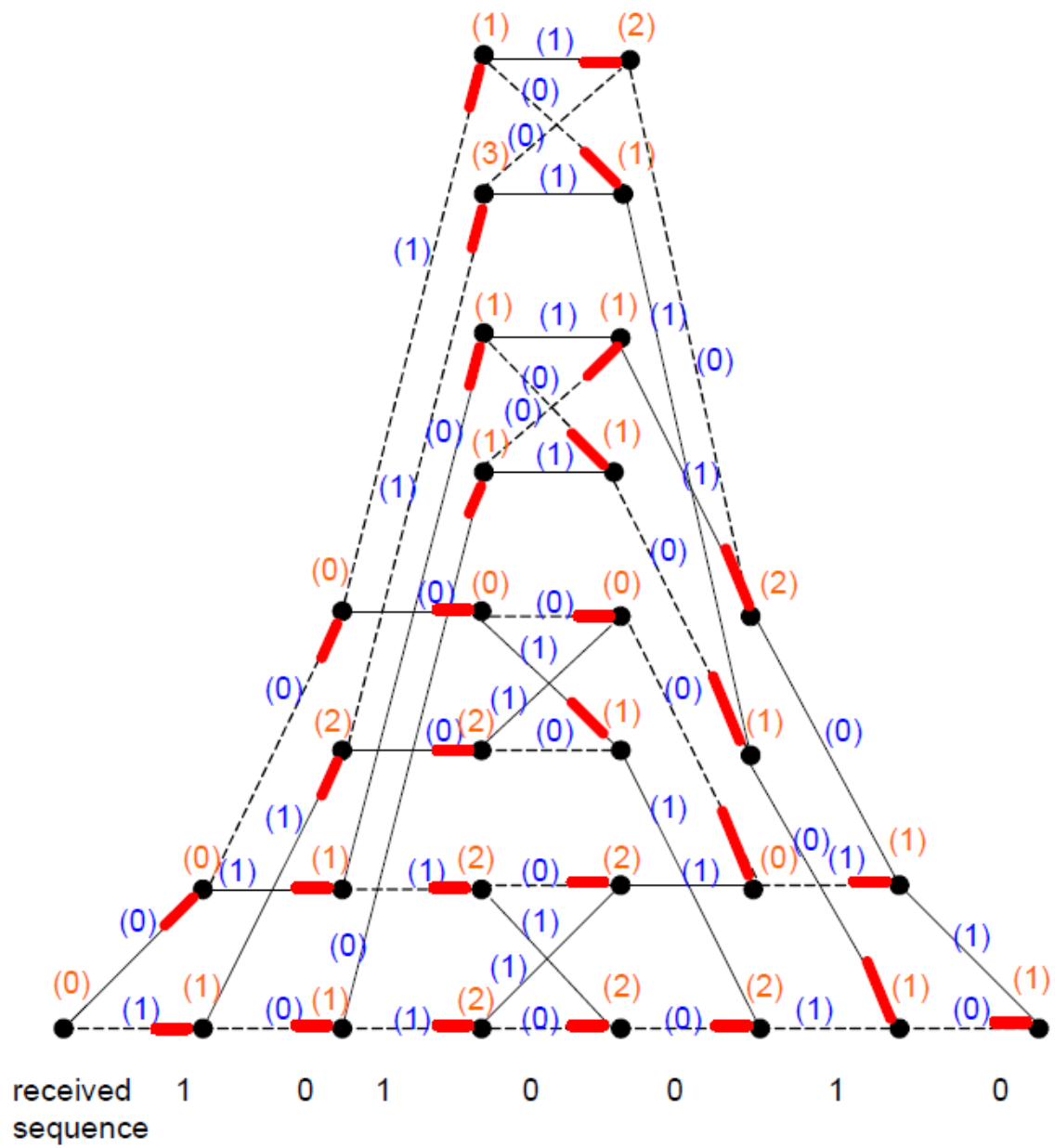


Figure 3.16. Cumulated metric calculation.



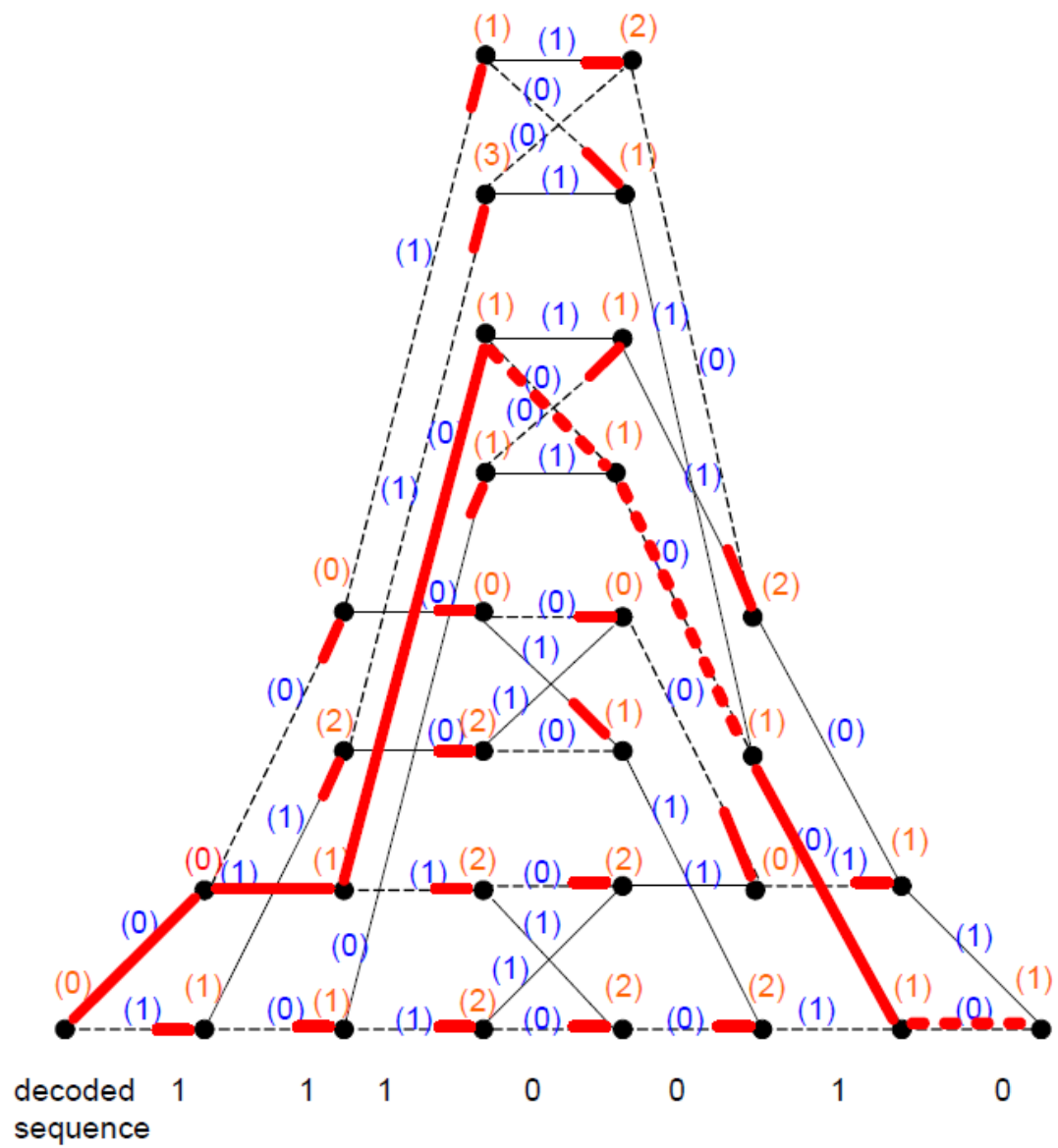


Figure 3.17. Determination of the estimated sequence.



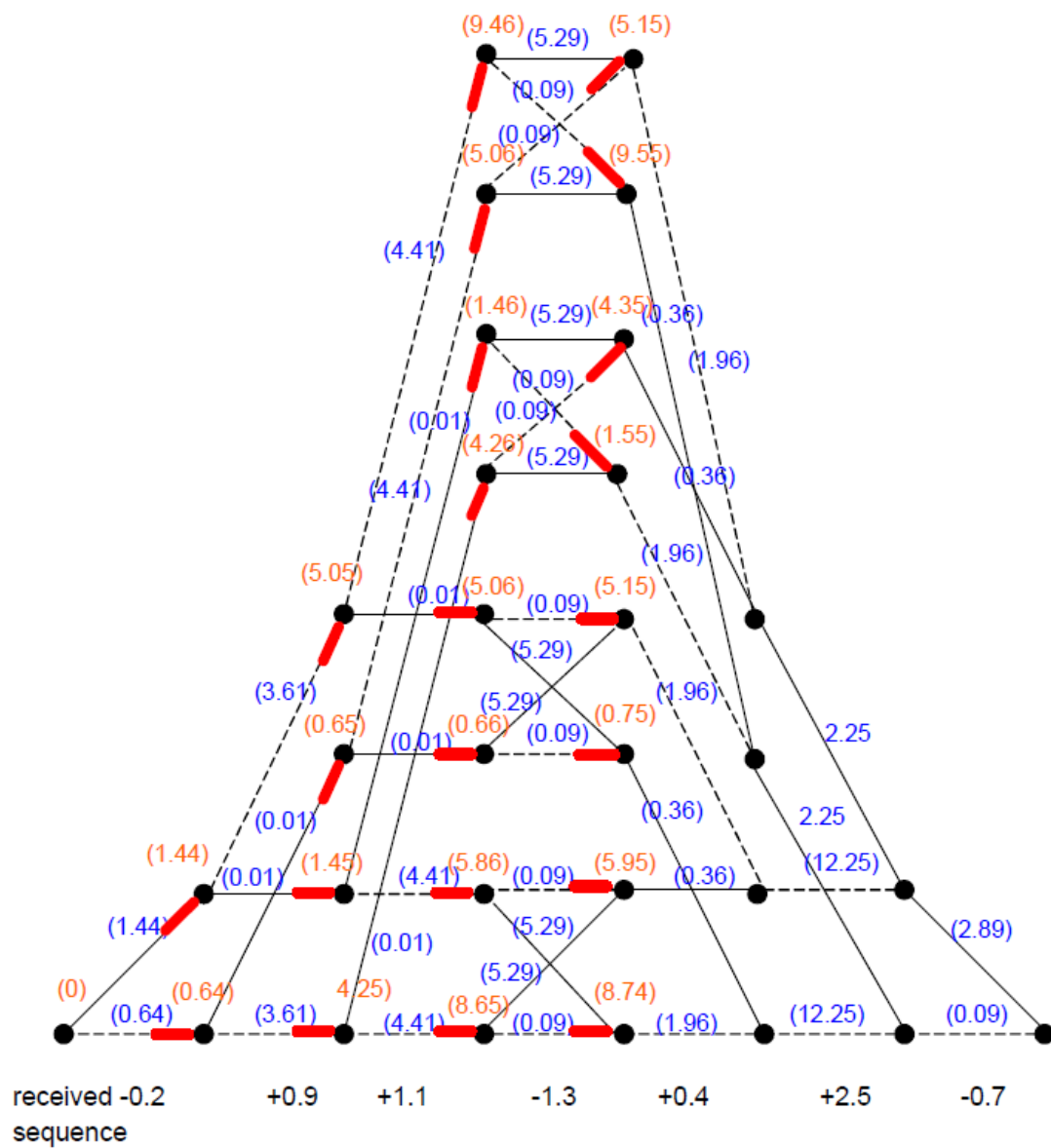
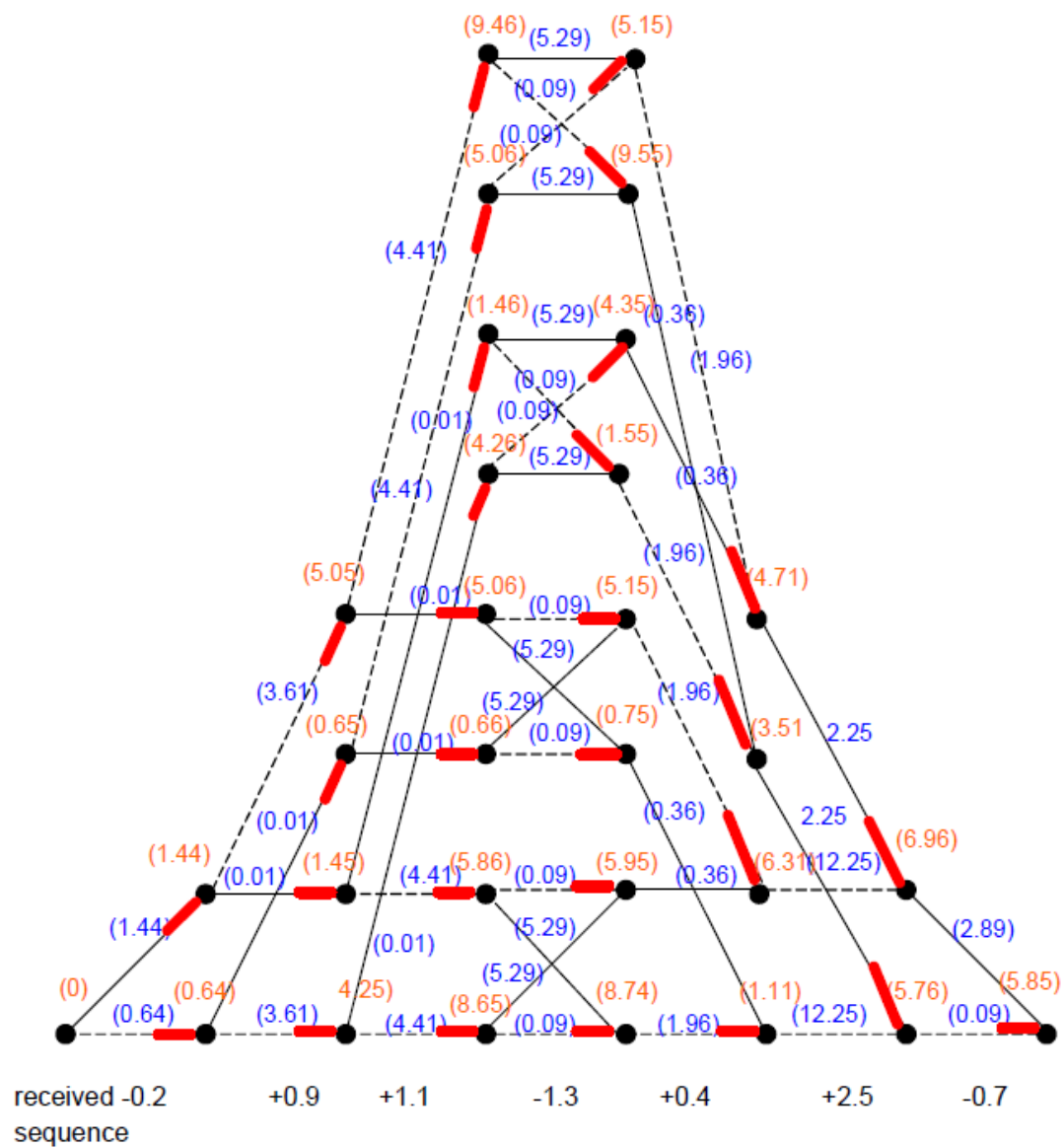


Figure 3.19. Cumulated metric calculation.



**Figure 3.20.** Cumulated metric calculation.

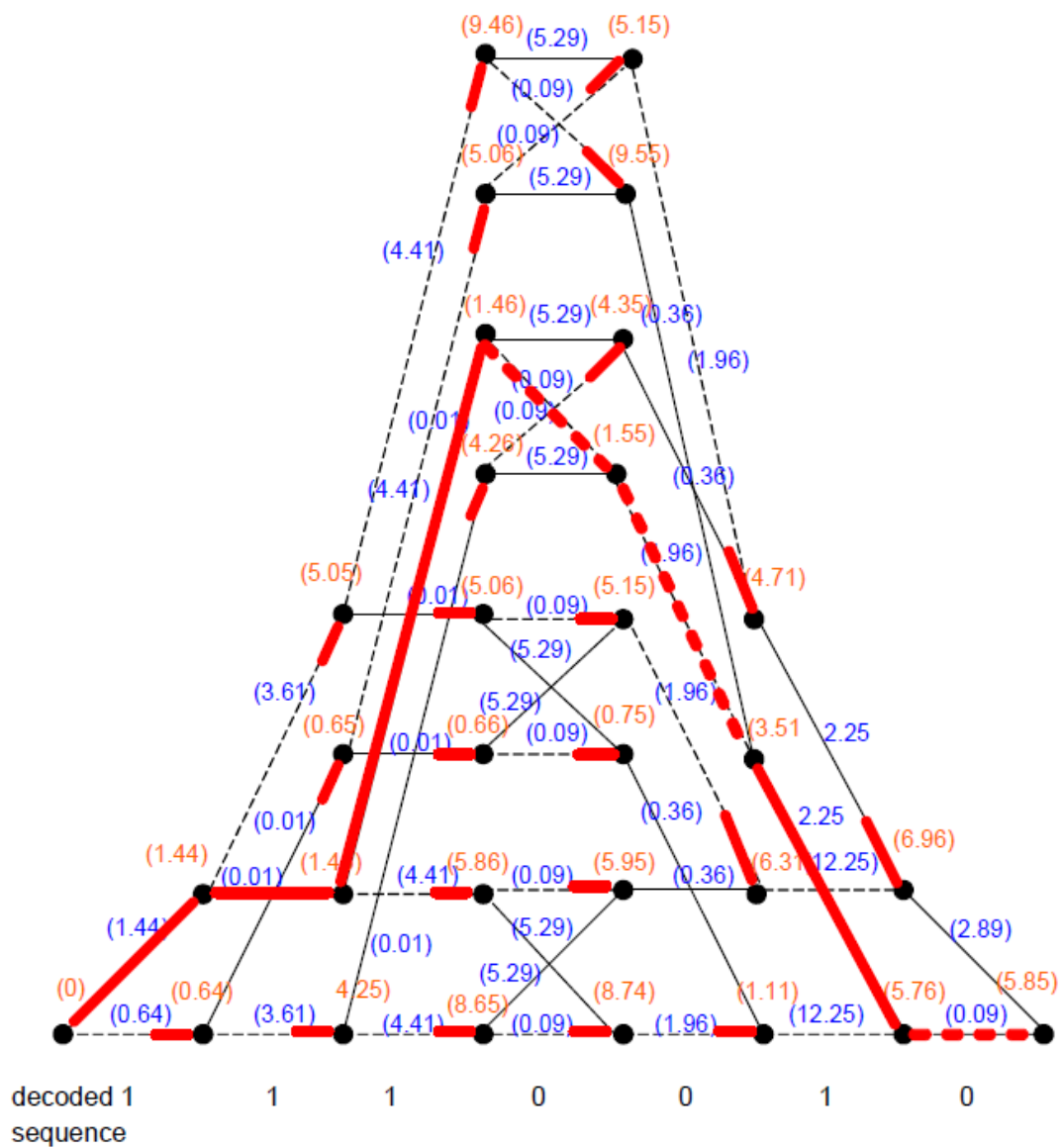
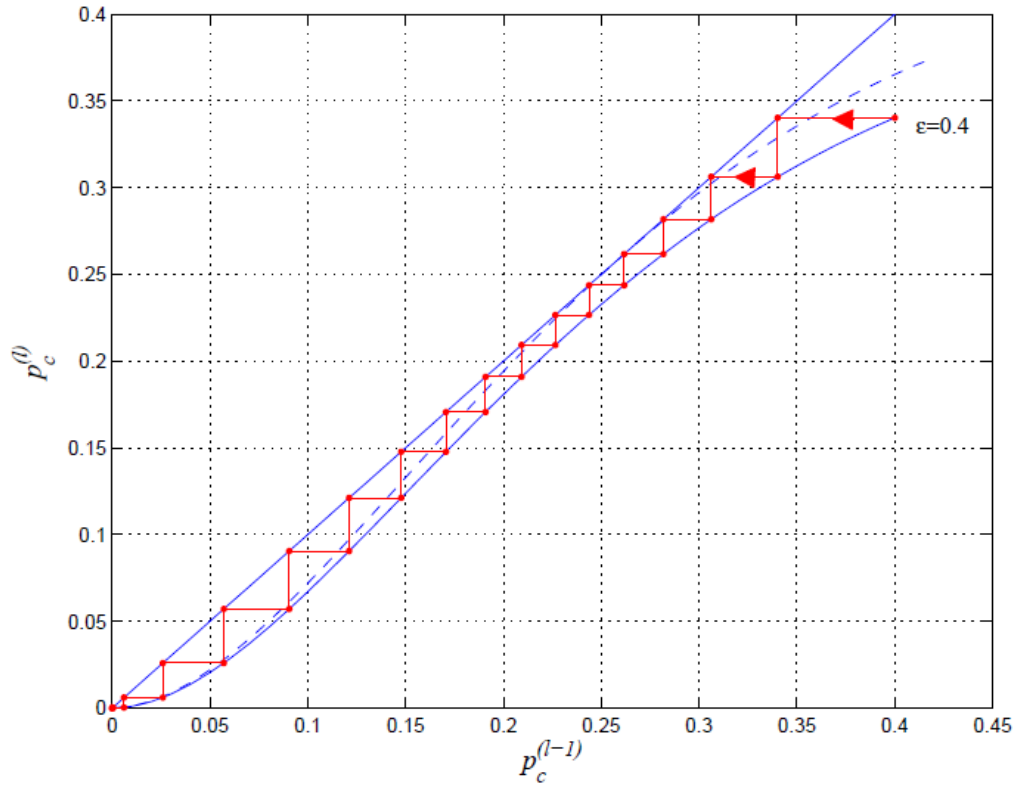
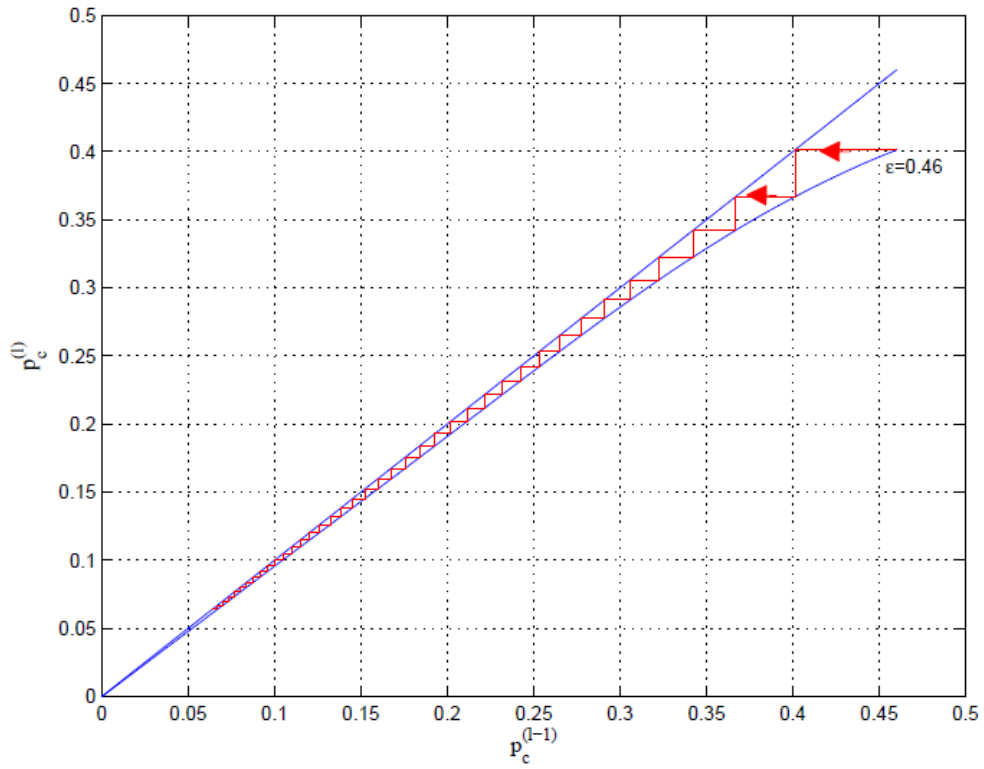


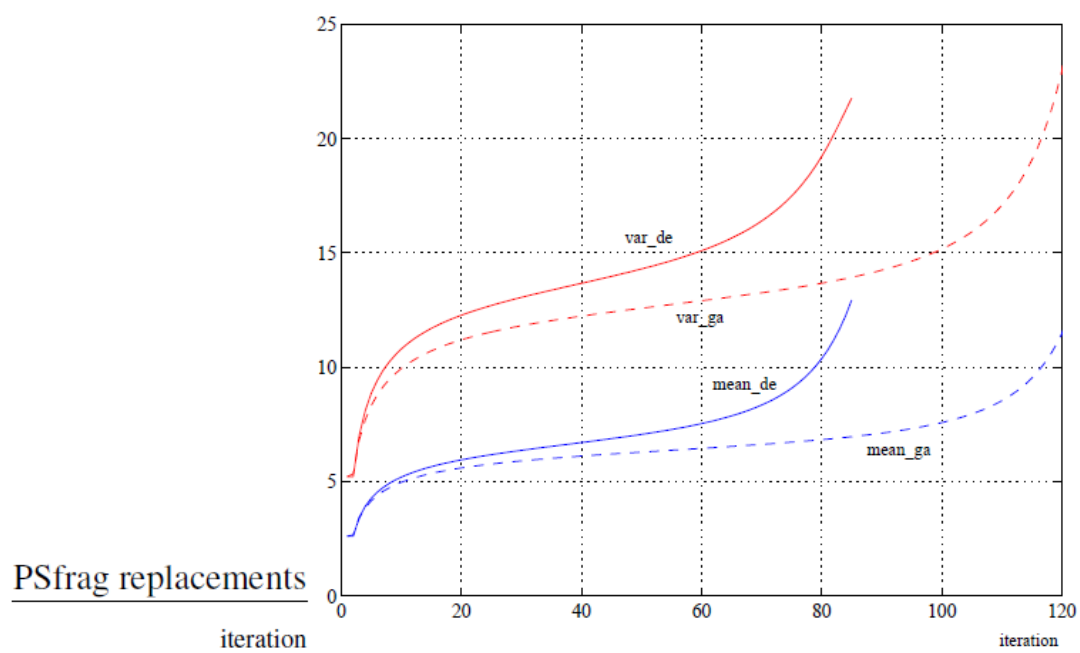
Figure 3.21. Determination of the estimated sequence.



**Figure 5.22.** Graphical illustration of the evolution of the erasure probability as a function of the iterations for a regular LDPC code with  $d_c=6$ ,  $d_r=3$ .



**Figure 5.23.** Graphical illustration of the evolution of the erasure probability as a function of the iterations for an irregular LDPC code.



**Figure 5.28.** Comparison of the mean and variance calculated using the Gaussian approximation and using the density probability evolution.

