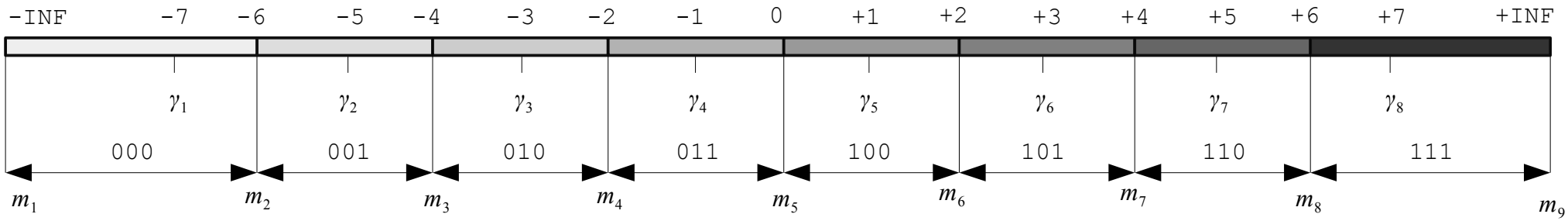
DISTRIBUTED_SOURCE_CODING_USING_SYNDROMES
AUTHOR: BLANCO CAAMANO, Ramon
ABOUT: LLOYD_MAX_QUANTIZER_DESIGN_V_0_1

$INTERVALS: m_0, m_1, \ldots, m_L$

$LEVELS: \gamma_0, \gamma_1, \ldots, \gamma_L$



LEVELS	INTERVALS	
1	1	2
2	2	3
3	3	4
4	4	5
5	5	6
6	6	7
7	7	8
8	8	9

STEP A: QUANTIZATION INTERVALS → LEVELS

$$\gamma_k = \frac{\sqrt{\frac{\sigma^2}{2\pi}}\left[e^{-\frac{m_{k-1}^2}{2\sigma^2}} - e^{-\frac{m_k^2}{2\sigma^2}}\right]}{qfunc\left(\frac{m_{k-1}}{\sigma}\right) - qfunc\left(\frac{m_k}{\sigma}\right)}$$

STEP B: LEVELS → QUANTIZATION INTERVALS

$$m_k = \frac{1}{2}(\gamma_{k+1} + \gamma_k)$$