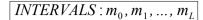
DISTRIBUTED_SOURCE_CODING_USING_SYNDROMES AUTHOR: BLANCO CAAMANO, Ramon

ABOUT: LLOYD MAX_QUANTIZER_DESIGN_V_0_1



 \overline{LEVELS} : γ_0 , γ_1 , ..., γ_L

-INF	- 7 -	-6 -5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	+7	+INF
	ı			1				I		I		l		ı	
	γ_1	γ_2		γ_3		γ_4		γ_5		γ_6		γ_7		${\gamma}_8$	
	000	001		010		011		100		101		110		111	
m_1		m_2	m_3		m_4		m_5		$\widehat{m_6}$		m_7		m_8		m_9

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

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