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step)

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Finite Acquisition Time – Case 2 & 3					
 As an example, let's compute the percent amplitude error for the N values derived previously (½ LSB B-bit settling to a step) 					
$A_{err} = \left \frac{A}{\sqrt{1 + (\omega \tau)^2}} - A \\ A \\ = 1 - \frac{1}{\sqrt{1 + (\omega \tau)^2}} = 1 - \frac{1}{\sqrt{1 + (2\pi f_m \frac{T_g/2}{N})^2}} = 1 - \frac{1}{\sqrt{1 + (\frac{\pi f_m}{N}f_g)^2}}$					
	В	N	$A_{err} (f_{in} = f_s/20)$	$A_{err} (f_{in} = f_s/2)$	
	6	4.9	0.052%	4.9%	
	10	7.6	0.021%	2.1%	
	14	10.4	0.011%	1.1%	
	18	13.2	0.007%	0.7%	
Penn ESE 568 Fall 2019 - Khanna adapted from Murmann EE315B, Stanford 25					



















































































