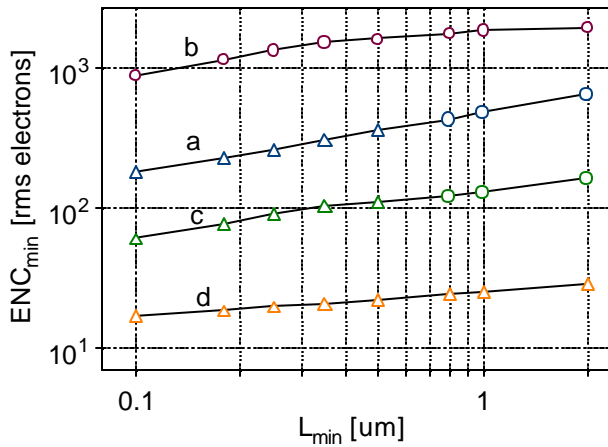


# Study of noise in submicron CMOS charge amplifiers

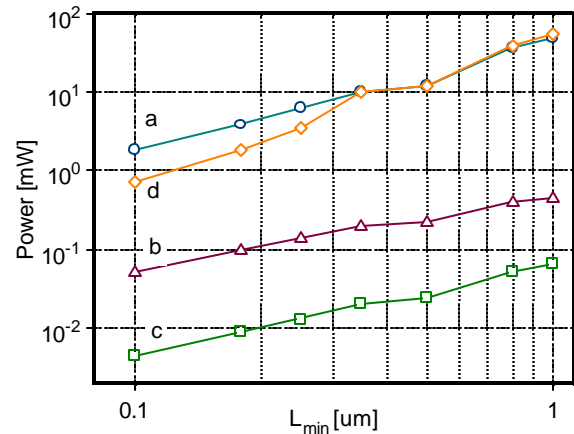
System specifications

System	$C_{DET}$	$T_s$	$I_{LEAK}$	Constrained		Detector	Typical Application
				P	ENC		
a	30	75	.001	10	480	Wire Chamber	Tracking, Imaging
b	15	25	10	0.2	1970	Si Strip	Tracking
c	0.3	25	1	0.02	140	Si Pixel	Tracking
d	3	2500	0.01	10	28	Semicon.	Spectroscopy
UNITS	pF	ns	nA	mW	rms e <sup>-</sup>	-	-

Noise vs. feature size



Power vs. feature size



Optimum FET capacitance

