CCD vs PDA : caractéristiques

	InstaSpec™ II Silicon PDAs	InstaSpec™ IV Spectroscopy CCDs	LineSpec™ CCDs (14 x 200 µm)
Spectral response	180 to 1100 nm	180 to 1100 nm	200 to 1000 nm
Pixel size (binned)	25 µm x 2500 µm	26 µm x 26 µm	14 x 200 µm
Saturation level (binned)	125 x 10^6 e^-	250 x 10^3 e^- (625 x 10^3 e^-)	140 x 10^3 e^-
Saturation exposure	>107 nJ cm^{-2}@600 nm	>250 pJ cm^{-2}@600 nm	0.6 nJ cm^{-2} @ 600 nm
Dark Current @min temp.	<6.4x10^{-16}A/pixel <1.03x10^{-14}A/cm^2	<1.6x10^{-20}A/pixel <2.4x10^{-15}A cm^2	<4.2x10^{-17}A/pixel <1.5x10^{-12}A/cm^2
Detection limit	<3.3 pJ cm^{-2}@600 nm <3750 e^-	<3.8 fJ cm^{-2}@600 nm <10 e^-	0.5 pJ cm^{-2} @ 600 nm <122 e^-
Max S/N ratio	10,000:1	900:1	374:1
Dynamic range	32,786:1 (@ 62 kHz)	65,536:1 (@ 62 kHz)	1150:1 (@ 1.25 MHz)
Electrons/count	1900	10	55
Usable for linear spectroscopy/ imaging	Yes	Yes	Yes
Usable for two dimensional spectro-scopy and imaging (shutter required)	No	Yes	No

$E\lambda = 3.3\ 10^{-19}$ J @ 600 nm

saturation ?
bruit de lecture ?
codage N bits = ?

(rendement quantique ?)