Hyperspectral Imagers

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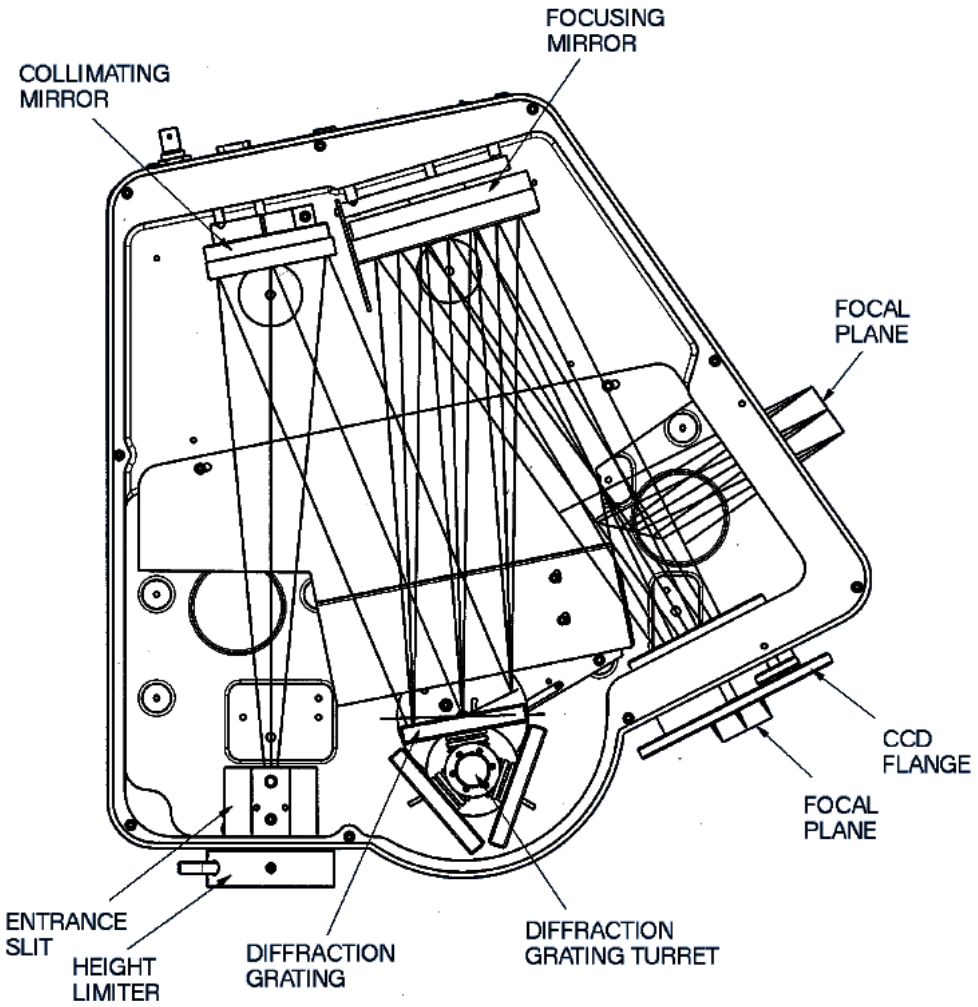
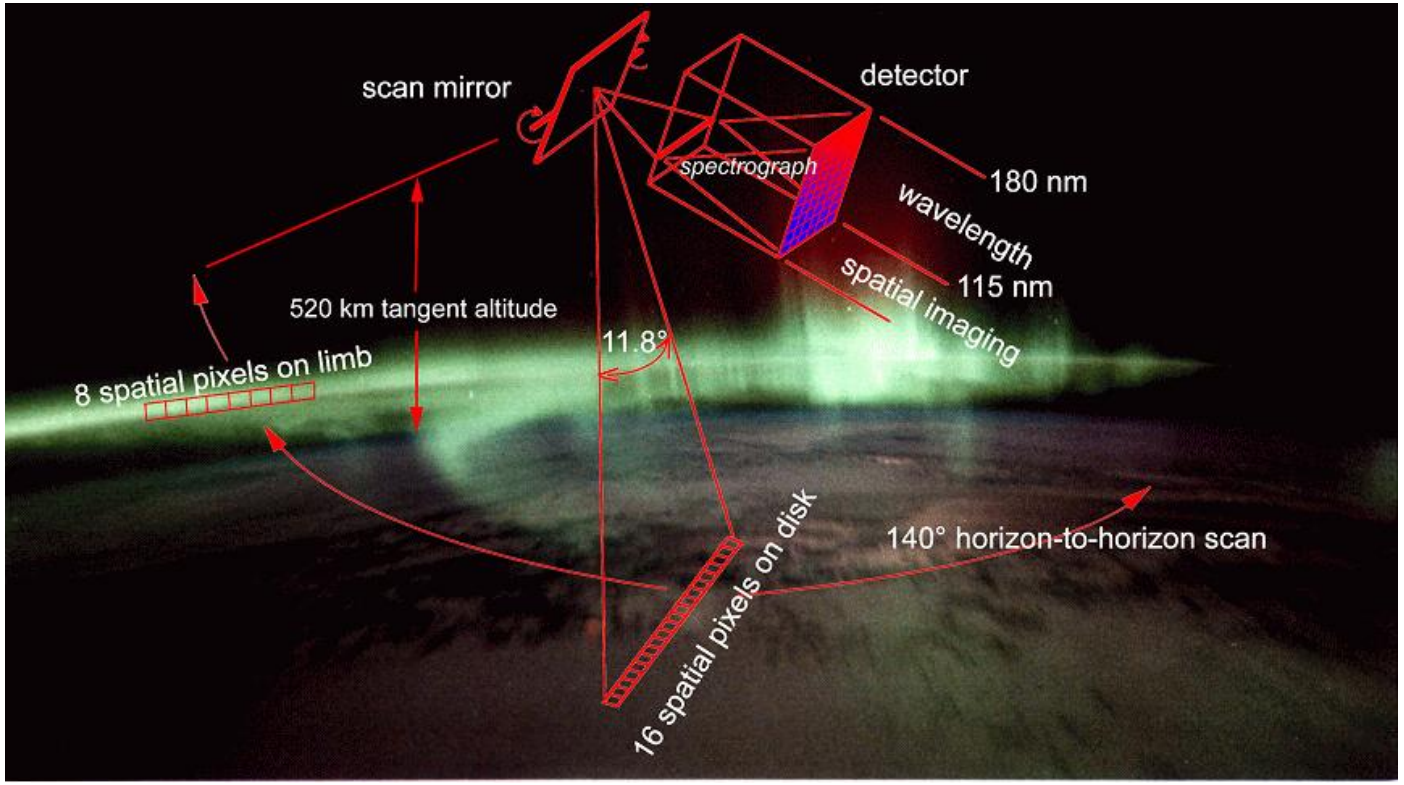
Spectrometer

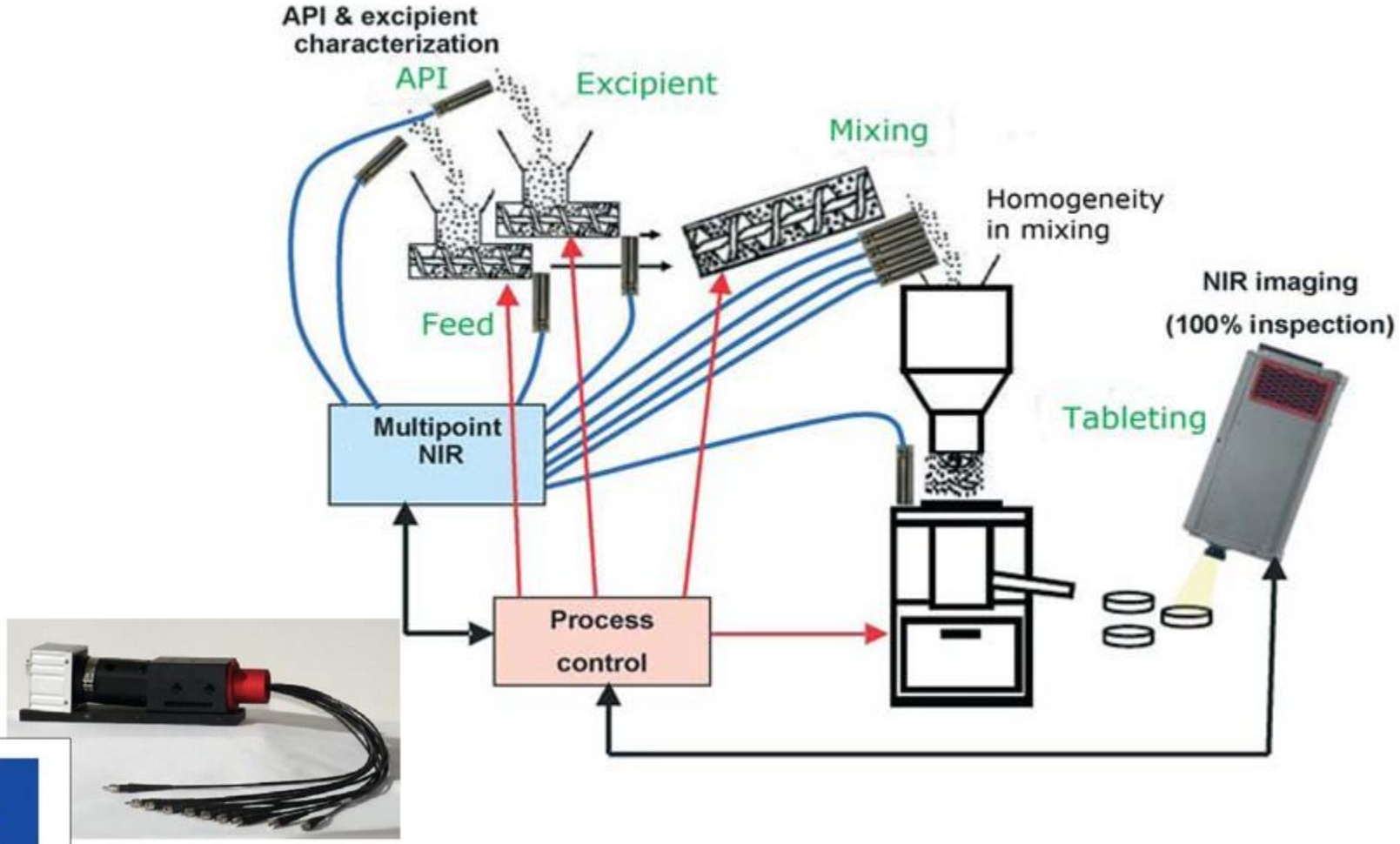


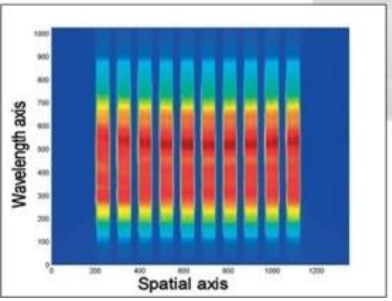
Introduction

Hyperspectral Imager is an optical-electrical integral system that can produce hyperspectral imaging of sample. It operates in the VIS and VNIR ranges with high spatial and spectral resolution at high image rate.



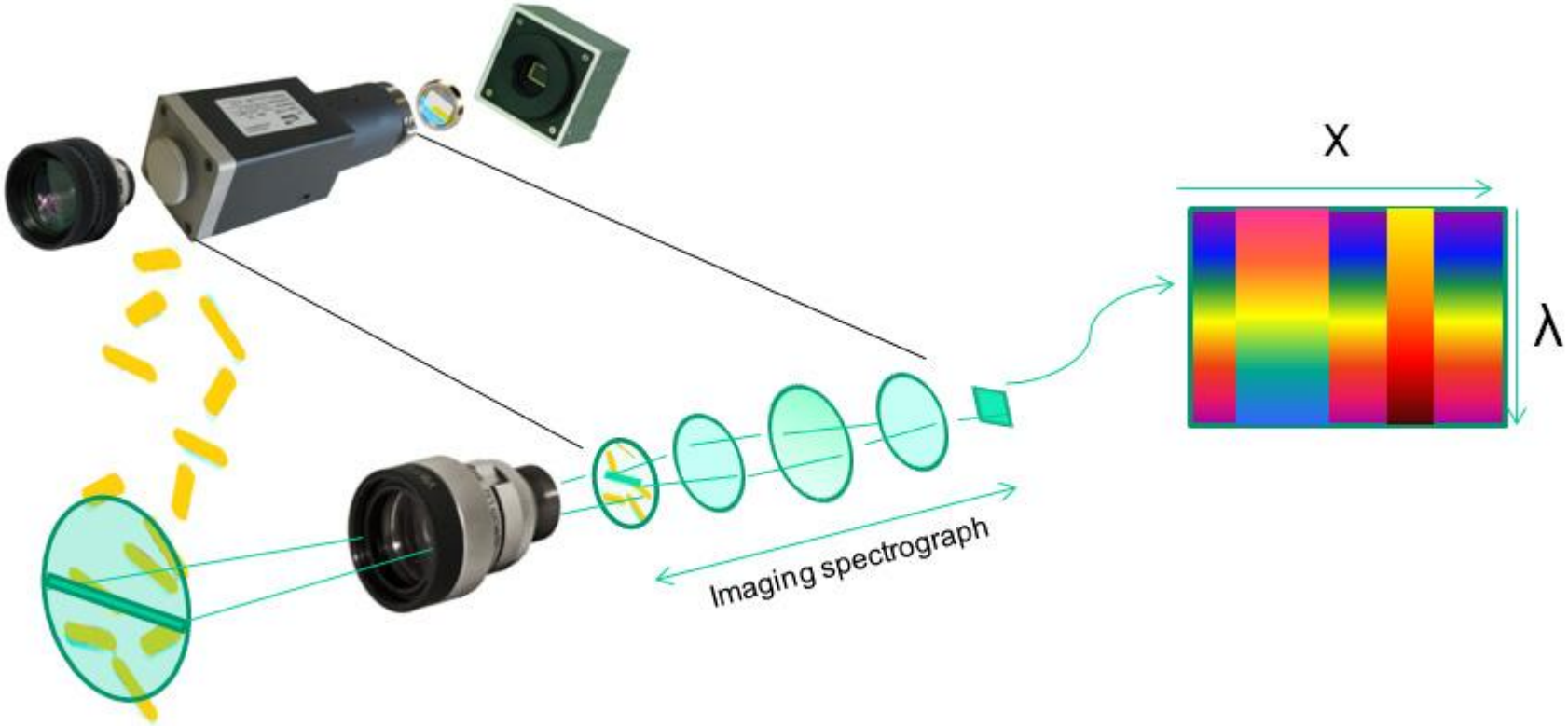
Simplest version is multipoint spectrometer





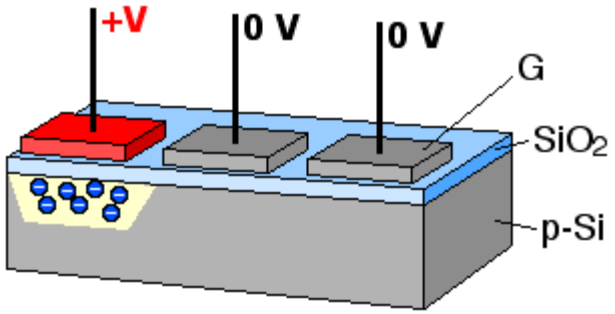
Specim hyperspectral imager (Imspector)

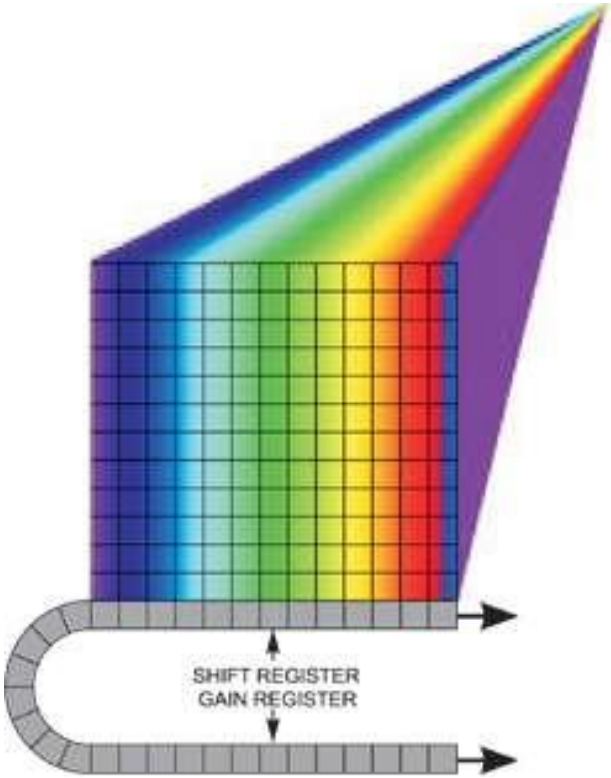
Samples are scanned line by line.
Line image is resolved by grating.
Recorded by CCD camera.

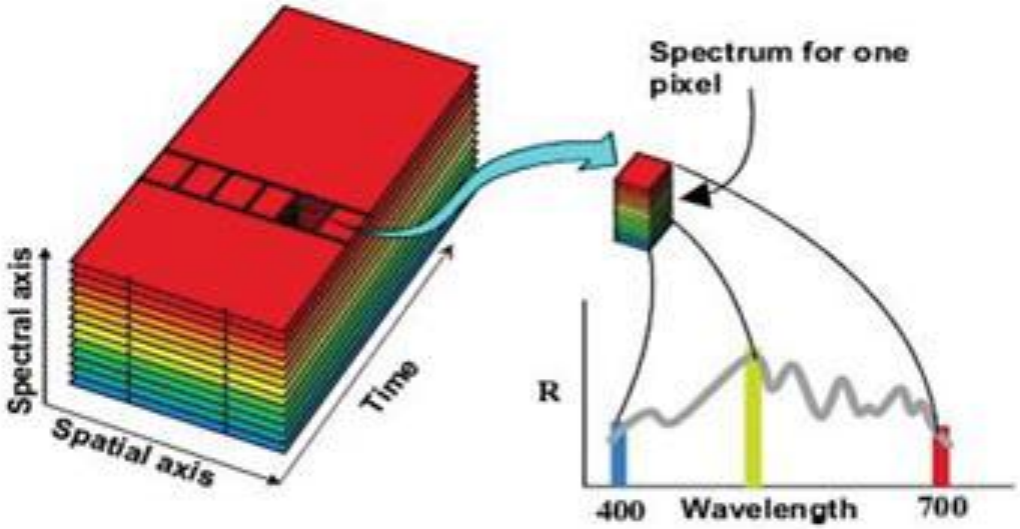


Introduction

Image capture using CCD camera.
Hyperspectral image is a series of discrete single wavelength images.



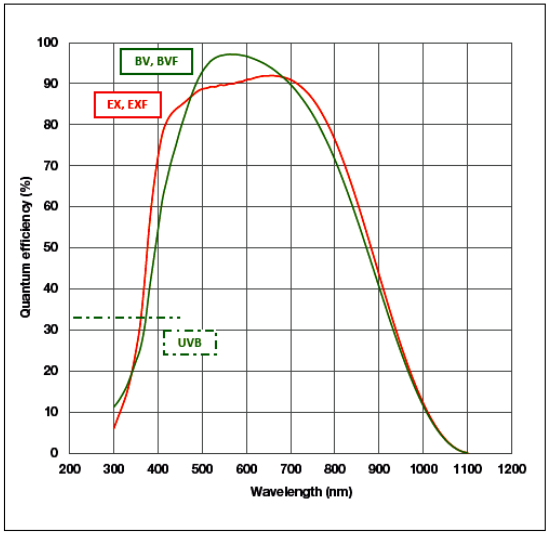




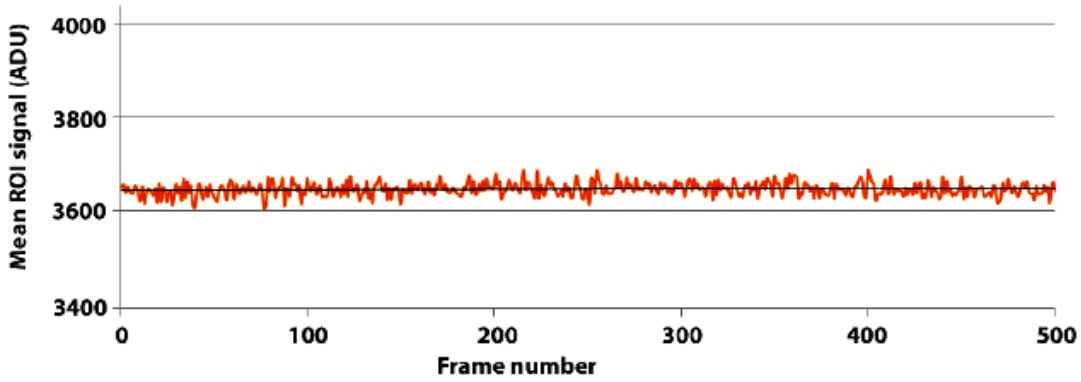
Selection criteria

- Quantum efficiency
- Stability during image capture
- Scanning range
- Spatial resolution
- Spectral resolution

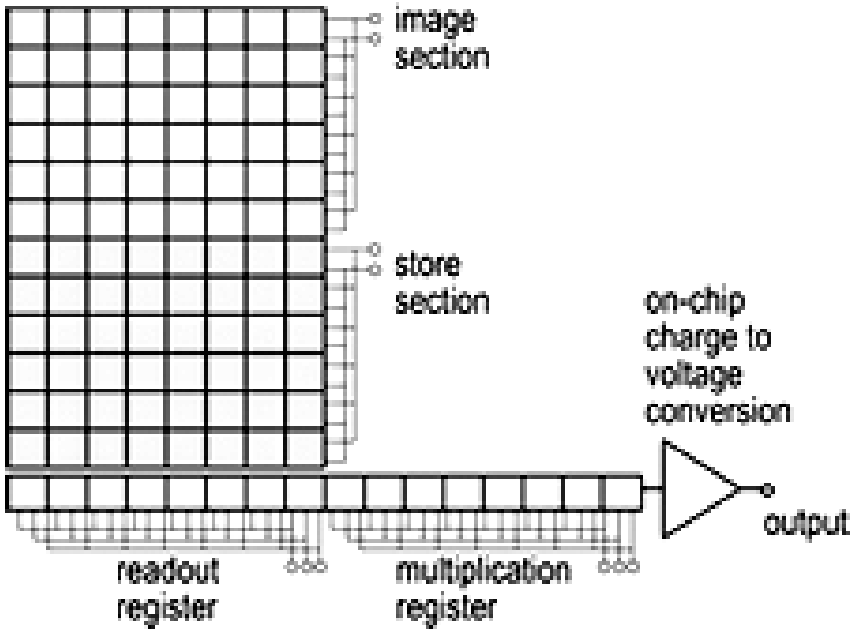
Quantum Efficiency Curves *10

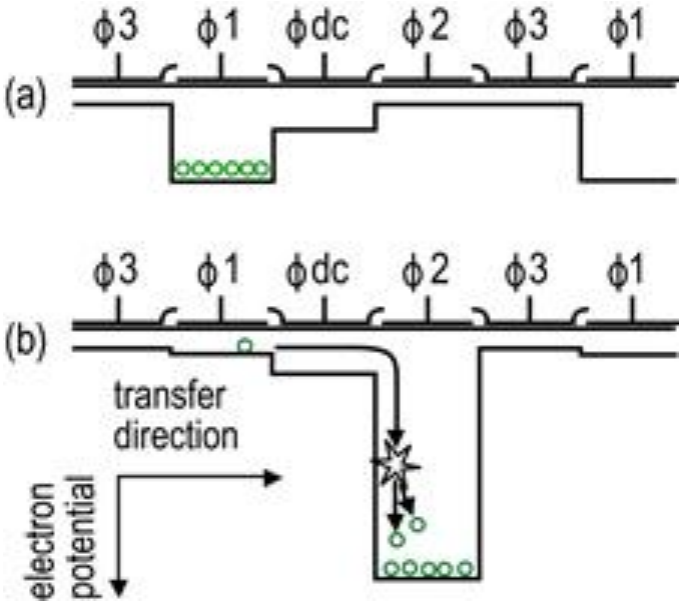


Stability Plot



EMCCD as optional detector





Available scanning range

Wavelength range	Spectral range	ImSpector
UV	200 - 400 nm	UV4E
VIS	380 - 780 nm	V8H, V8, V8E
Raman	500 - 600 nm 800 - 900 nm	R6E, R9E
VNIR	350*/400 - 1000 nm	V10H, V10, V10E, V10M*, Fast10
eNIR	600 - 1600 nm	V16M
NIR	900 - 1700 nm	N17E
SWIR	1000 - 2500 nm	N25E
MWIR **)	3000 nm - 5000 nm	M50M
LWIR **)	8000 - 14000 nm	L120M L140M L120MP

Suppliers

- Andor
- Specim
- Gilden
- Brimrose

Price: around 30,000 or more USD

Thank you