2-Photon Light sheet microscopy

Confocal

PMT
Pinhole
Tube lens
Excitation
Emission
Dichroic

Pinhole PMT
Tube lens
Excitation
Emission
Dichroic

θ
WD
NA = n*sinθ

Lateral resolution
Axial resolution

Resolution (microns)

\[ \frac{\lambda}{2 \times NA} \]

\[ \frac{2 \times \lambda}{NA^2} \]

Numerical aperture (NA)

Energy load per plane

Photo-bleaching
High
Medium
Low

Imaging speed
Slow
Slow
Fast (100-1000X)

RI = 1
RI = n

RI = 1
RI = n

sCMOS

Point Scan

Point Scan

Point Scan