

The intensity for a given (hkl) measured by rotating the crystal with a uniform angular velocity ω through a reciprocal lattice position is given by

$$I_{hkl} = I^0(\lambda^3 / \omega) (V_{\text{sample}} L_p A / V_{\text{cell}}^2) |F_{hkl}|^2$$

ω =velocity of rotation

C. G. Darwin (*Phil. Mag.* 27, 315-333, 675-690 (1914), *Phil. Mag.* 43, 800-829, (1922)).

Collimator

Mo Radiation SMART 1000 50kV 40mA

Pinhole size(mm)		Counts (*1000)	Intensity (esd)	S/N
back	front			
0.5	0.5	174	152,880(1022)	149
0.8	0.5	310	286,326(1306)	219
no	no	410	385,434(1679)	230
monocapillary		537	511,274(1953)	261

Comparison Table Incident X-ray Intensity

Comparison Table Signal to Noise

#	Pinhole	0.5/0.5	0.5/0.8	none	monocapillary
1	0.5/0.5	1			
2	0.5/0.8	1.5	1		
3	none	1.5	1.1	1	
4	monocapillary	1.8	1.2	1.1	1