

Atmospheric Dispersion Issues for NSFCAM with AO

Image elongation in arcseconds

Zenith Angle	1.164	1.483	2.027	3.424	4.562
Lambda/D	1.326	1.779	2.363	4.124	4.603
	J	H	K	L'	M
15	0.086	0.112	0.151	0.259	0.315
30	0.013	0.011	0.005	0.002	0.000
45	0.029	0.023	0.011	0.004	0.000
60	0.050	0.041	0.019	0.008	0.000
75	0.086	0.070	0.033	0.013	0.000
	0.186	0.152	0.070	0.029	0.001

From Fred Gillets graph

Zenith Angle	1.164	1.483	2.027	3.424	4.562
	1.326	1.779	2.363	4.124	4.603
	J	H	K	L'	M
15					
30					
45	0.055	0.0375	0.0125	0.005	
60	0.1	0.05	0.025	0.0125	
75	0.2	0.1	0.05	0.03	

Expressed as a fraction of the diffraction core

Zenith Angle	1.164	1.483	2.027	3.424	4.562
Lambda/D	1.326	1.779	2.363	4.124	4.603
	J	H	K	L'	M
15	0.086	0.112	0.151	0.259	0.315
30	16%	13%	6%	2%	0%
45	34%	27%	13%	5%	0%
60	58%	48%	22%	9%	0%
75	101%	82%	38%	16%	1%
	218%	177%	82%	34%	1%

Expressed as a fraction of the diffraction core

Zenith Angle	1.164	1.483	2.027	3.424	4.562
Lambda/D	1.326	1.779	2.363	4.124	4.603
	J	H	K	L'	M
15	0.0856	0.112139	0.150917	0.259481	0.31507
30					
45	64%	44%	15%	6%	
60	117%	58%	29%	15%	
75	234%	117%	58%	35%	