

Constants and parameters	Notation	Values	Units	Measured
Physical constants				
speed of light in vacuum	C	3,00E+08	m/s	
Plank constant	h	6,63E-34	J.s	
Boltzman constant	kb	1,38E-23	m2.kg.s-2.K-1	
Parameters				
effective wavelength	λeff	6,00E-07	m	
wavelength width	Δλ	4,00E-07	m	
entrance pupil diameter	D	5,00E-03	m	
distance pseudo stellar sources to CCD	L0	3,00E-01	m	
distance mirror to CCD	L	6,00E-01	m	
optics + fibres transmission	T	7,00E-01	-	
CCD quantum efficiency	ρ_pix	8,00E-01	-	
effective quantum well size	w	2,00E+05	-	
minimum read time	Tmin	1,00E-03	s	
ratio central pixel flux/centroid flux	Rflux	2,00E-01	-	
Number of photon-electrons needed	Ne-	5,70E+10	-	
Parameters (SMF)				
SMF NA	NA	0,13	-	
White source temperature	Ts	3,00E+03	K	
Black body emissivity	ε	1,00E+00	-	
Parameters (MMF)				
pinhole diameter	d	1,50E-05	m	
Intermediate quantities				
Number of frames needed	Nf	5,70E+04	-	
Black body spectral irradiance	SIbb	5,13E+11	W.m-3.sr-1	
Black body irradiance	Ibb	2,05E+05	W.m-2.sr-1	
Intermediate quantities (SMF)				
SMF power (one fibre)	Psmf	5,17E-08	W	2,00E-07
ρmirror	ρSMF	8,18E-03	-	
flux on CCD (one spot)	P_im_smf	4,24E-10	W	
photon flux on CCD (one spot)	Fy_im_smf	1,28E+09	s-1	
photo-electron flux on CCD (one spot)	Fe-_im_smf	1,02E+09	s-1	
Intermediate quantities (MMF)				
Fiber irradiance	L_fiber	1,44E+05	W.m-2.sr-1	
pinhole power (one pinhole)	Phole	2,54E-05	W	
Irradiance on mirror	E_mirror	8,47E-05	W.m-2	
flux on CCD (one spot)	P_im_mmf	1,66E-09	W	3,30E-09
photon flux on CCD (one spot)	Fy_im_mmf	5,02E+09	s-1	
photo-electron flux on CCD (one spot)	Fe-_im_mmf	4,01E+09	s-1	
Final quantities (SMF)				
Integration time (source limited)	Ty_i_smf	9,78E-04	s	
Source optimality coefficient	η	1,02	-	
Integration time	Ti	1,00E-03	s	
Total integration time	Ttot	5,70E+01	s	
Final quantities (MMF)				
White source exposure time	Ty_i_mmf	2,49E-04	s	
Source optimality coefficient	η	4,01	-	0.8
Integration time	Ti	1,00E-03	s	
Total integration time	Ttot	5,70E+01	s	