

SH analysis of: TWFS
 Test type: Telescope at Cassegrain focus

Diameter of the mirror : 1524.1 mm
 Focal length of telescope : 15845.9 mm
 Telescope focal ratio : 10.4
 Scale : 13.0 (arc sec/mm)
 Focal length of the collimator : 56.0 mm

Mir: STAR04_54
 Ref: reference6

	Date	Time	Exp. Time	Thresh.	Ellipt.
Mir:	2009-06-18	04:47:43			
Ref:	2009-06-18	02:38:24			

Analysis : 06/17/09
 Size of the grid of measured points in x-y direction : 14 * 14
 Initial number of double points : 138
 Number of double points used for the analysis : 126
 Initial inner and outer normalized radii : .2333 1.0872
 Final inner and outer normalized radii : .2333 .9982

OPTICAL QUALITY (USER DEFINED ANNULAR ZERNIKES)

Coefficients and their internal errors (in nm)

	term	c_x+/-err (nm)	c_y+/-err (nm)	cf+/-err (nm)	D+/-err (")	angle+/-err (°)
Def	0 2			-14.8 18.8	-.06 .08	
Tilt	1 1	-4614.0 51.7	3064.7 51.6	5539.1 71.6	2.90 .04	146.4 .1
Coma	1 3	14.1 13.9	-39.6 13.7	42.1 17.6	.28 .12	-70.4 11.6
SA3	0 4			21.5 8.9	.18 .07	
Ast3	2 2	283.1 25.9	-243.1 26.1	373.2 29.7	.96 .08	-40.7 .2
TCom	3 3	36.1 18.6	35.5 18.5	50.6 26.2	.22 .12	44.5 .1
QAst	4 4	16.0 14.5	10.1 14.5	18.9 20.3	.12 .13	32.4 3.4

Coefficients and their internal errors (in waves, lambda= 550.0 nm)

	term	c_x+/-err (waves)	c_y+/-err (waves)	cf+/-err (waves)	D+/-err (")	angle+/-err (°)
Def	0 2			-.027 .034	-.06 .08	
Tilt	1 1	-8.389 .094	5.572 .094	10.071 .130	2.90 .04	146.4 .1
Coma	1 3	.026 .025	-.072 .025	.076 .032	.28 .12	-70.4 11.6
SA3	0 4			.039 .016	.18 .07	
Ast3	2 2	.515 .047	-.442 .047	.678 .054	.96 .08	-40.7 .2
TCom	3 3	.066 .034	.064 .034	.092 .048	.22 .12	44.5 .1
QAst	4 4	.029 .026	.018 .026	.034 .037	.12 .13	32.4 3.4

Following values in arcseconds

	rmsx	rmsy	rms	d50	d80
Residual	.151	.176	.232	.330	.540
Actual*	.293	.327	.439	.786	1.082
Potential	.151	.176	.232	.330	.540

STATISTICS

Probability of goodness-of-fit 1.000

WAVEFRONT (in nm)

	max	min	P-V	ave	rms	Strehl	npoints
Residual	232.9	-257.5	490.4	-95.2	99.5	.274	104
Actual	858.2	-919.6	1777.8	-245.9	394.5	.00	104
Potential	232.9	-257.5	490.4	-95.2	99.5	.274	104

WAVEFRONT (in waves, lambda= 550.0 nm)

Residual	.423	-.468	.892	-.173	.181	.274	104
Actual	1.560	-1.672	3.232	-.447	.717	.000	104
Potential	.423	-.468	.892	-.173	.181	.274	104

ORIENTATION OF CCD IMAGE

+X West -X East
+Y South -Y North

DIAGNOSTICS

Defoc: move M2 towards M1 by: .003 mm
SA3 : move focal plane inwards by: 2.383 mm
Coma3:
decenter M2 East by:.053 mm and South by: .147 mm
or, equivalently
tilt M2 West by: 13.9" and North by: 38.8"

Center of SH image :
CCD: X displacement: -.050 mm
CCD: Y displacement: .296 mm
Shift of beam on collimator (X): .053 mm
Shift of beam on collimator (Y): -.312 mm
Shift of optical axis of instrument: .053 mm West
Shift of optical axis of instrument: .311 mm North
