

NEW 10/23/08

(updated tel props.)

SH analysis of: 1.5m WFS
Test type: Telescope at Cassegrain focus

Diameter of the mirror : 1524.0 mm
Focal length of telescope : 14681.0 mm
Telescope focal ratio : 9.6
Scale : 14.0 (arc sec/mm)
Focal length of the collimator : 56.0 mm

Mir: IMAGE52
Ref: reference09

Date Time Exp. Time Thresh. Ellipt.
Mir: 2007-10-16 10:10:18
Ref: 2007-10-16 05:28:46

Analysis : 10/23/08
Size of the grid of measured points in x-y direction : 13 * 14
Initial number of double points : 134
Number of double points used for the analysis : 134
Initial inner and outer normalized radii : .2020 .9959
Final inner and outer normalized radii : .2020 .9959

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					340.9	19.2	1.31	.07		
Tilt	1 1	-3225.8	47.1	-2993.9	47.5	4401.1	66.8	2.35	.04	-137.1	.0
Coma	1 3	-355.0	15.6	-47.3	14.3	358.1	17.3	2.44	.12	-172.4	1.9
SA3	0 4					58.1	10.8	.44	.08		
Ast3	2 2	307.5	26.4	-77.3	26.6	317.1	35.8	.83	.09	-14.1	1.8
TCom	3 3	261.0	20.0	-90.9	19.9	276.4	27.5	1.25	.12	-19.2	.8
QAst	4 4	37.2	16.1	-16.8	16.0	40.8	17.8	.28	.12	-24.2	2.8

Coefficients and their internal errors (in waves, lambda= 632.0 nm)

	term	c_x+/-err (waves)		c_y+/-err (waves)		cf+/-err (waves)		D+/-err (")		angle+/-err (°)	
Def	0 2					.539	.030	1.31	.07		
Tilt	1 1	-5.104	.074	-4.737	.075	6.964	.106	2.35	.04	-137.1	.0
Coma	1 3	-.562	.025	-.075	.023	.567	.027	2.44	.12	-172.4	1.9
SA3	0 4					.092	.017	.44	.08		
Ast3	2 2	.487	.042	-.122	.042	.502	.057	.83	.09	-14.1	1.8
TCom	3 3	.413	.032	-.144	.031	.437	.044	1.25	.12	-19.2	.8
QAst	4 4	.059	.025	-.027	.025	.065	.028	.28	.12	-24.2	2.8

Following values in arcseconds

	rmsx	rmsy	rms	d50	d80
Residual	.163	.190	.251	.336	.557
Actual*	.565	.561	.797	1.151	2.046
Potential	.163	.190	.251	.336	.557

STATISTICS

Probability of goodness-of-fit 1.000

MIRROR SURFACE (in nm)

	max	min	P-V	ave	rms	Strehl	npoints
Residual	168.2	-238.5	406.7	-24.7	77.8	.550	112
Actual	1561.0	-972.6	2533.6	-181.7	509.8	.00	112
Potential	168.2	-238.5	406.7	-24.7	77.8	.550	112

MIRROR SURFACE (in waves, lambda= 632.0 nm)

Residual	.266	-.377	.644	-.039	.123	.550	112
Actual	2.470	-1.539	4.009	-.288	.807	.000	112
Potential	.266	-.377	.644	-.039	.123	.550	112

ORIENTATION OF CCD IMAGE

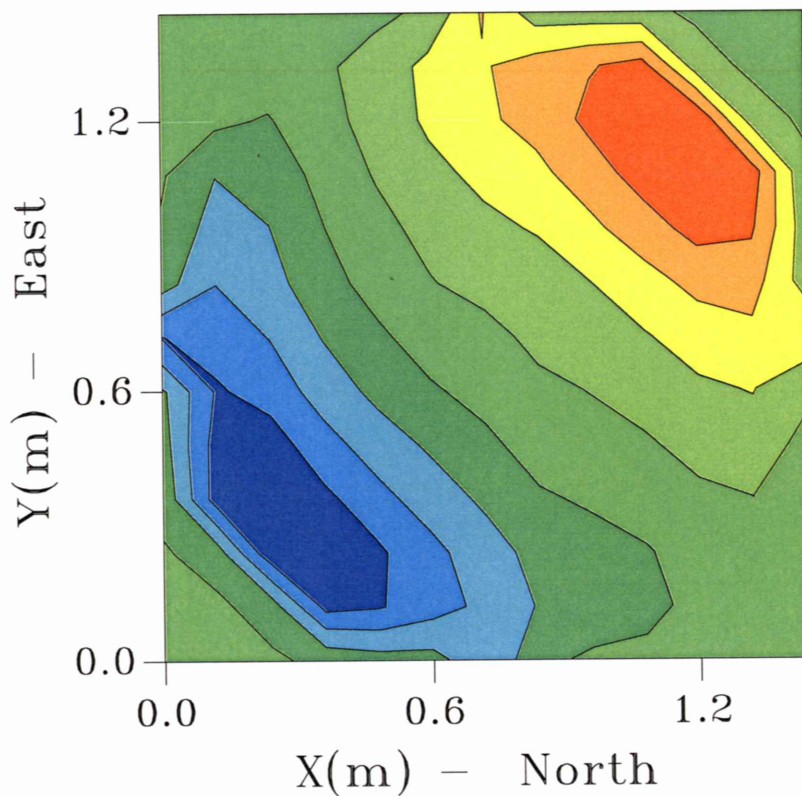
+X West -X East
+Y South -Y North

DIAGNOSTICS

Defoc: move M2 away from M1 by: .057 mm
SA3 : move focal plane inwards by: 5.473 mm
Coma3:
decenter M2 West by: 1.461 mm and South by: .195 mm
or, equivalently
tilt M2 East by: 330.6" and North by: 44.0"

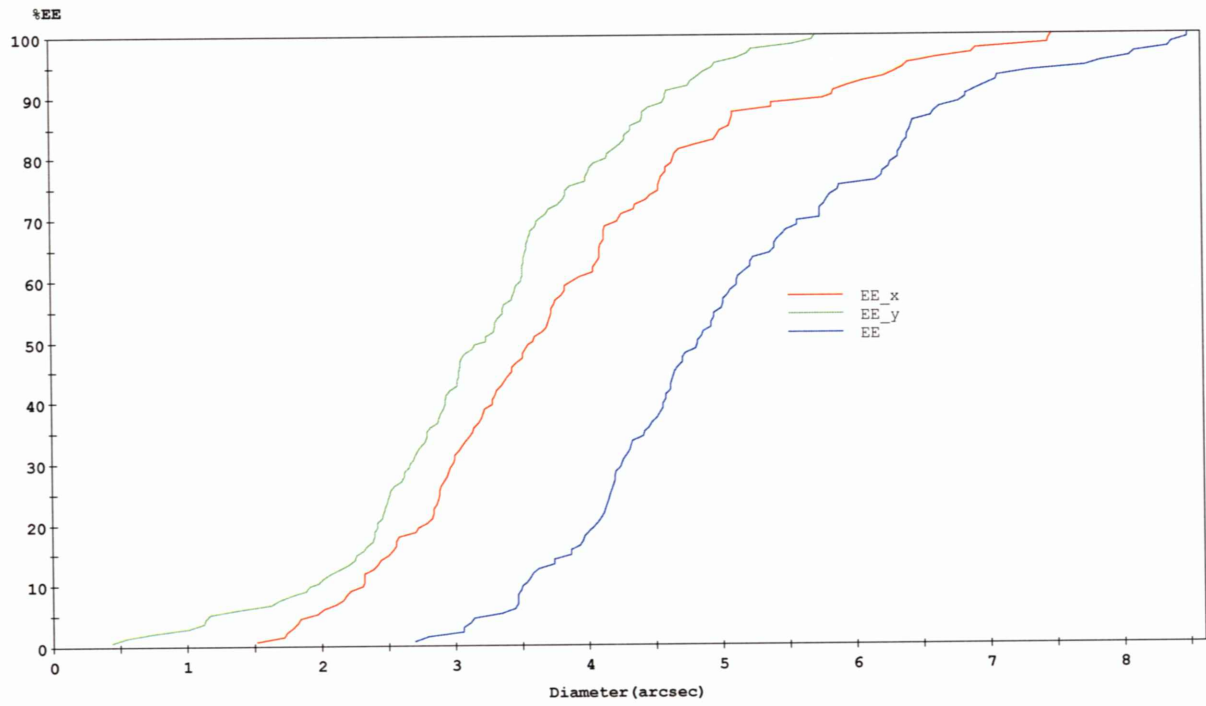
Center of SH image :
CCD: X displacement: .336 mm
CCD: Y displacement: .083 mm
Shift of beam on collimator (X): -.355 mm
Shift of beam on collimator (Y): -.088 mm
Shift of optical axis of instrument: .354 mm East
Shift of optical axis of instrument: .088 mm North

1.5m WFS IMAGE52 -Surface:RQ 0 terms subtracted
Wavelength = 632.0 nm



P-V=17567
rms=4099.3
ave=10611.6
(nm)

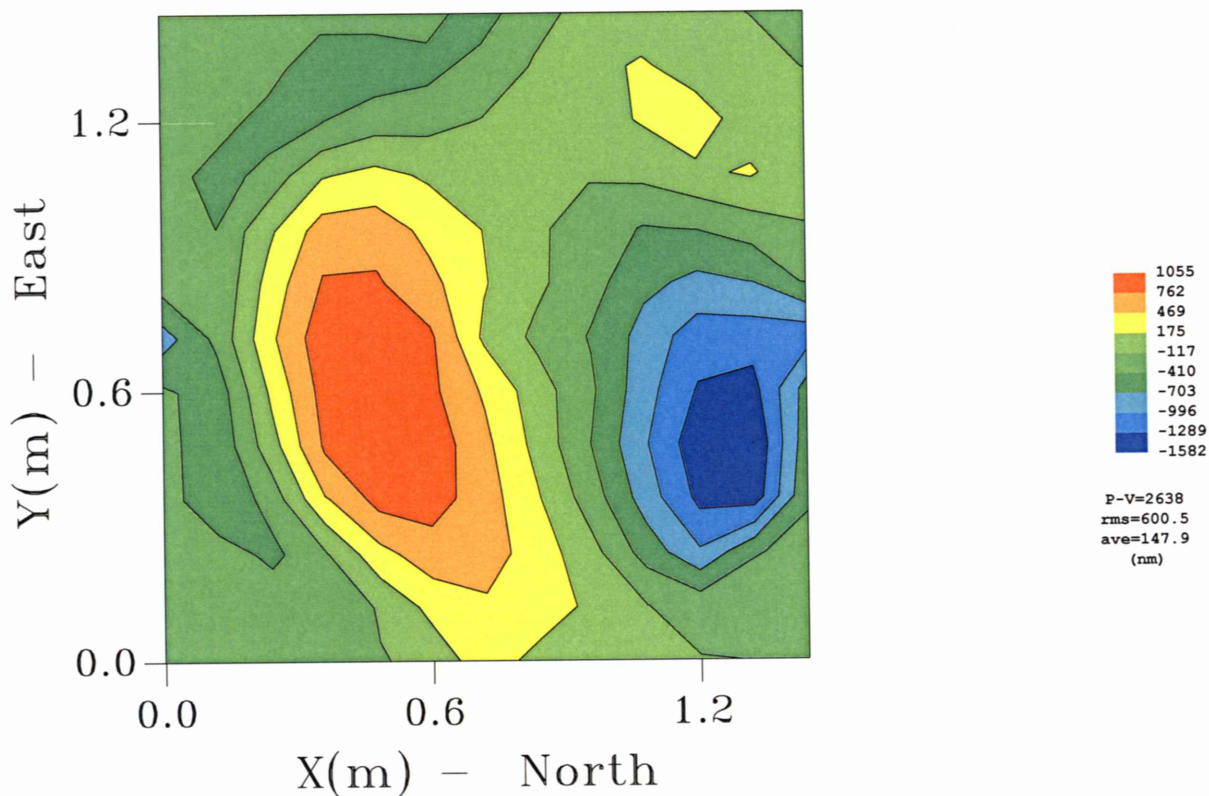
1.5m WFS IMAGE52-RQ 0 terms subtracted



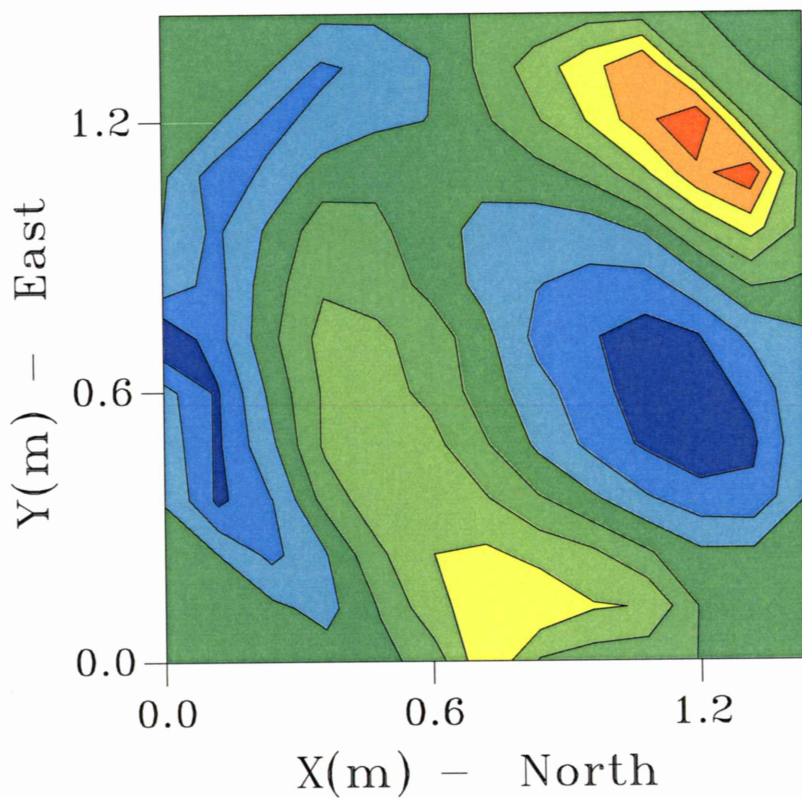
TILT (main)



1.5m WFS IMAGE52 -Surface:RQ 1 terms subtracted
Wavelength = 632.0 nm

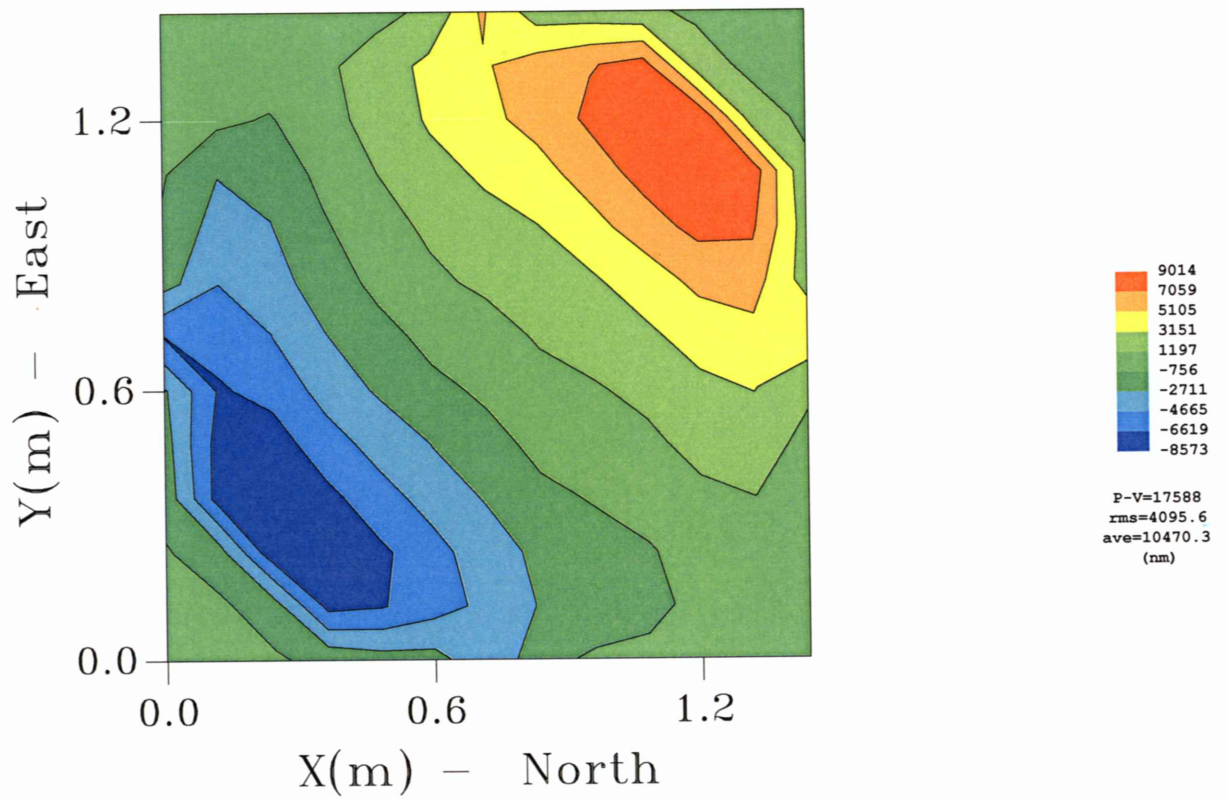


1.5m WFS IMAGE52 -Surface:AQ- Tilt and Defocus subtracted
Wavelength = 632.0 nm

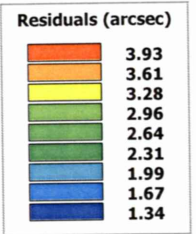
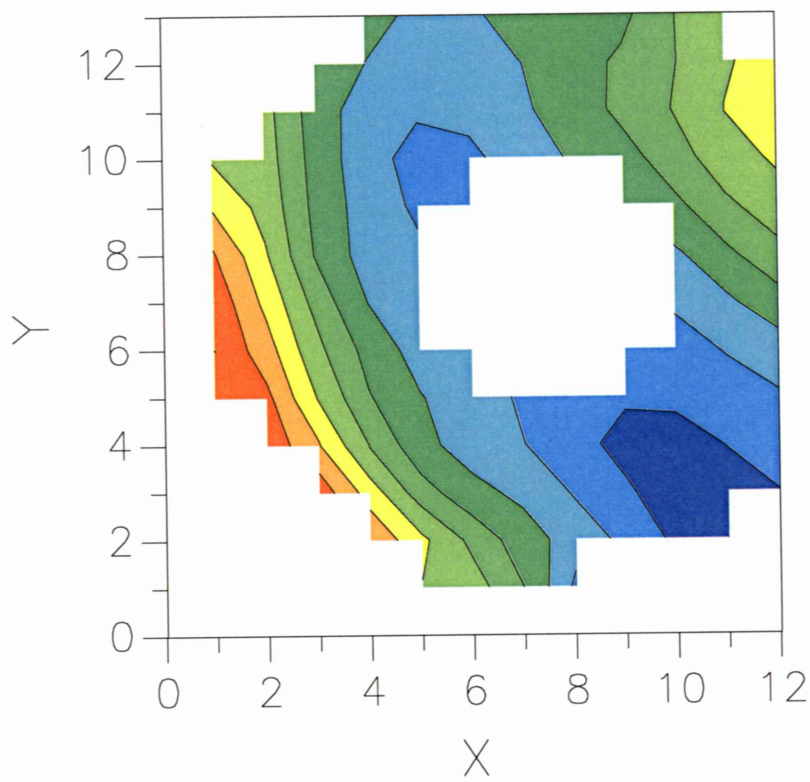


elcf

1.5m WFS IMAGE52 -Surface:RQ 1 terms subtracted
Wavelength = 632.0 nm

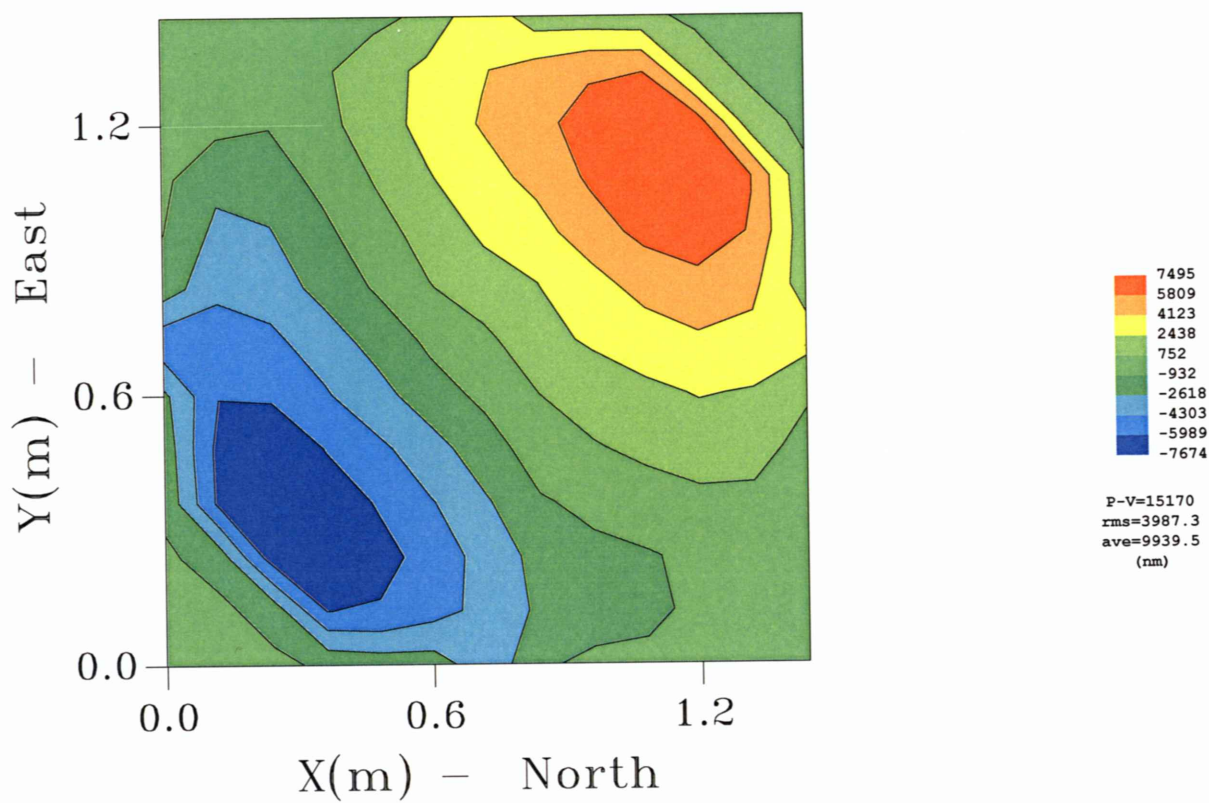


1.5m WFS IMAGE52



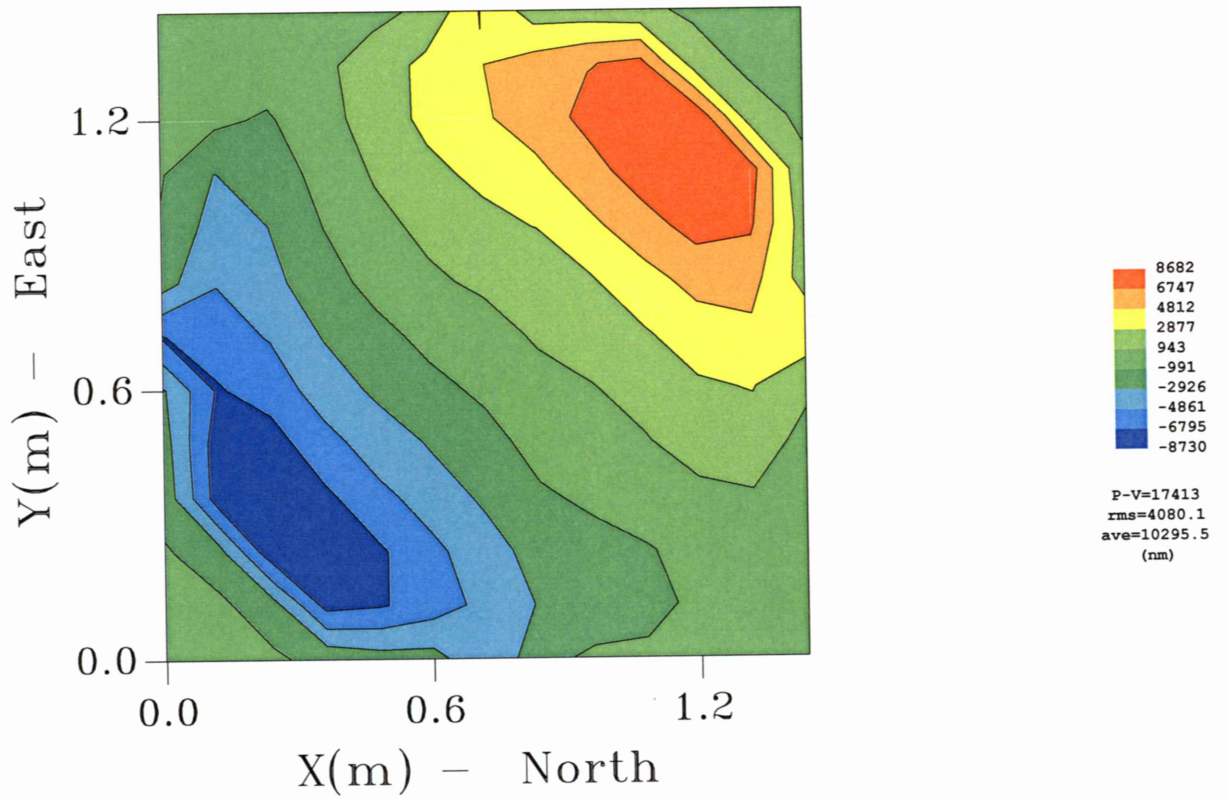
Center

1.5m WFS IMAGE52 -Surface:RQ 1 terms subtracted
Wavelength = 632.0 nm



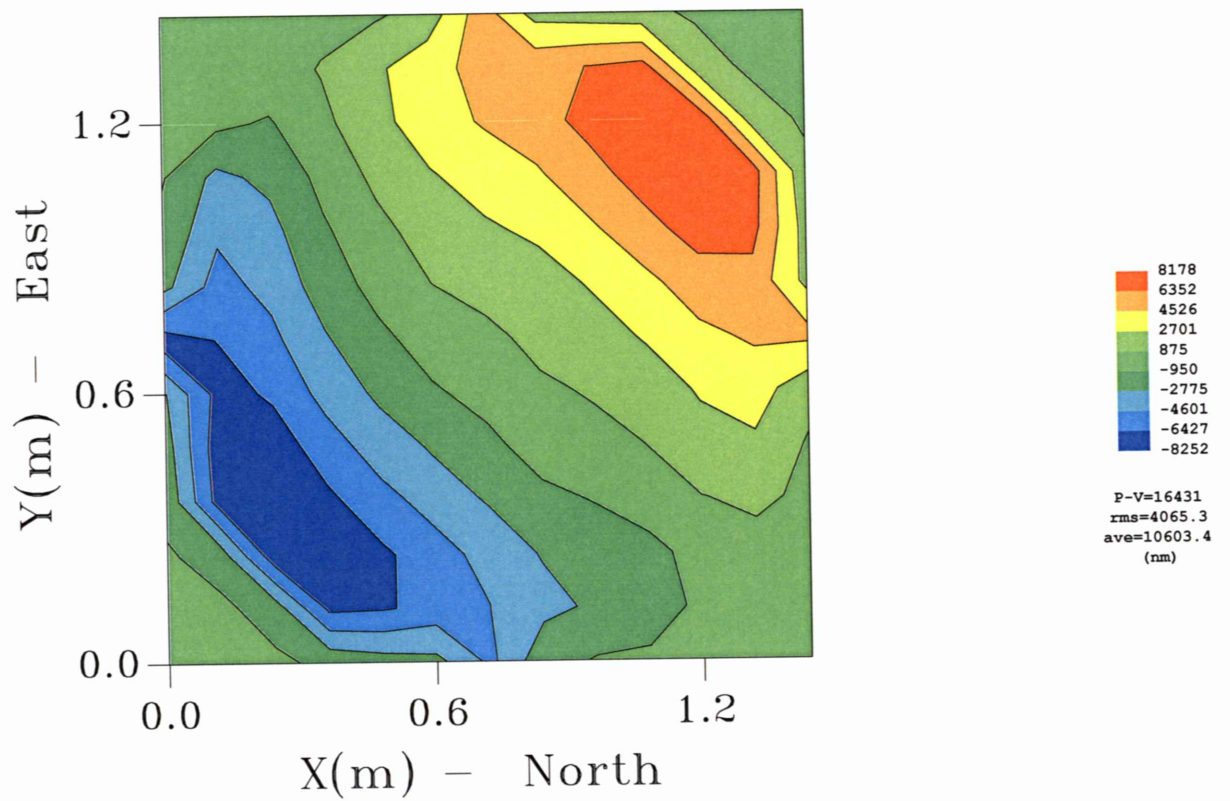
wstieg

1.5m WFS IMAGE52 -Surface:RQ 1 terms subtracted
Wavelength = 632.0 nm



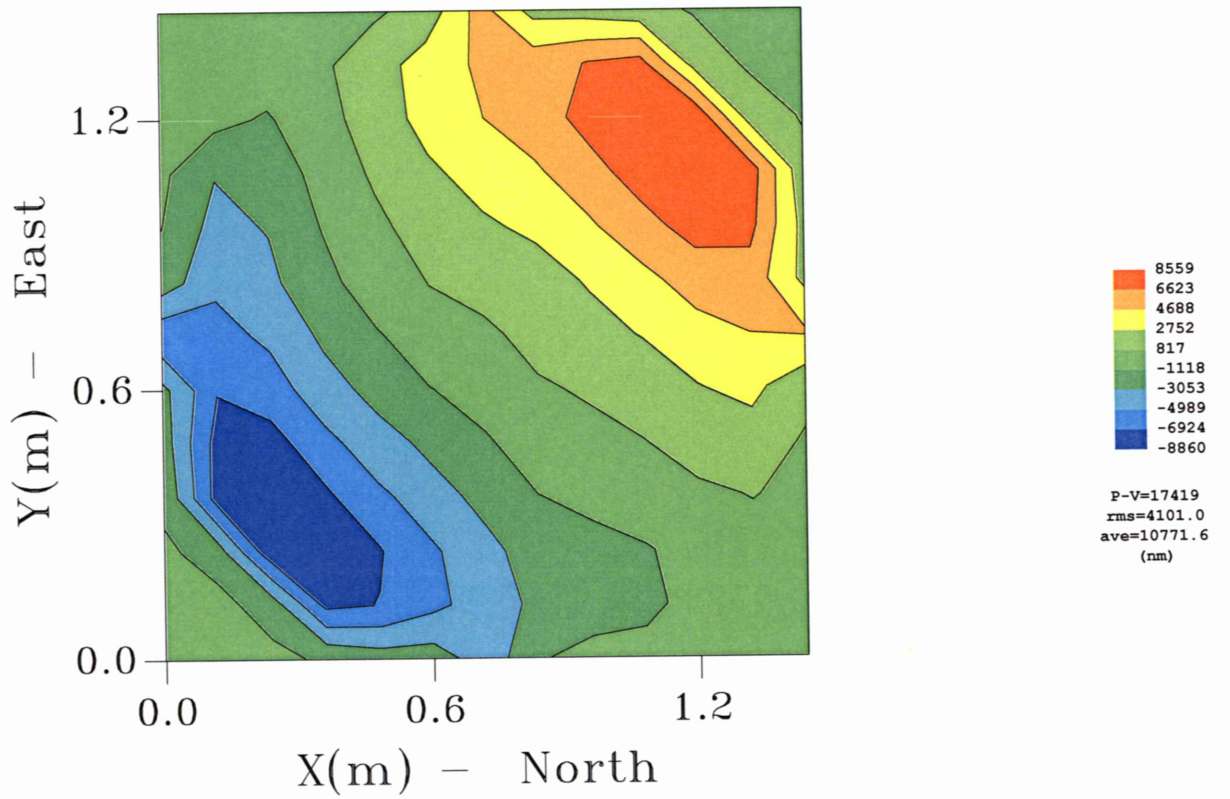
Δ coma

1.5m WFS IMAGE52 -Surface:RQ 1 terms subtracted
Wavelength = 632.0 nm



quadratic astig

1.5m WFS IMAGE52 -Surface:RQ 1 terms subtracted
Wavelength = 632.0 nm



1.5m WFS IMAGE52 -Surface:PQ 7 terms subtracted
Wavelength = 632.0 nm

