

## Measurement of Profile

8/23/01

data :=

 E:\..\010823cgh.prn

olddata :=

 E:\..\010822cgh.prn

flag := 0

surfdata :=

 E:\..\Lens2srf.prn

oldflag := 0

Decenter data

$$\text{data}^{\langle 0 \rangle} := \text{data}^{\langle 0 \rangle} + \text{newdecenter}$$

$$\text{olddata}^{\langle 0 \rangle} := \text{olddata}^{\langle 0 \rangle} + \text{olddecenter}$$

Surface Parameters

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Function describing probe trace

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Calc surface touch points

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Fit touchpoints to function

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Sag eqn

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Genfit function setup

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Calc Surface Function

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$$\text{meassurf} = \begin{pmatrix} 3.190269 \times 10^0 \\ -1.945012 \times 10^{-1} \\ 6.313308 \times 10^{-10} \\ -1.175168 \times 10^{-12} \\ 0.000000 \times 10^0 \\ 0.000000 \times 10^0 \end{pmatrix}$$

$$\text{TOL} \equiv .002$$

CURRENT

$$\text{oldmeassurf} = \begin{pmatrix} 3.190534 \times 10^0 \\ -1.998142 \times 10^{-1} \\ 5.559529 \times 10^{-10} \\ -9.121354 \times 10^{-13} \\ 0.000000 \times 10^0 \\ 0.000000 \times 10^0 \end{pmatrix}$$

Previous

measrad = 313.4532 mm      This is the measured vertex radius of the part      oldrad = 313.4271 mm

measconic = -0.1945      This is the measured conic of the part      oldconic = -0.1998

The last 4 entries in these vectors are the 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup> and 10<sup>th</sup> order coefficients normalize to the aperture.

Calc residuals from function

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Input the surface parameters to compare with the data (R, K). To compare with the nominal values, make R=rad, K=conic. To compare with the measured R & K, make R=measrad, K=measconic. Otherwise, just type in numbers for R & K.

$$R := \text{rad} + .0 \cdot \text{mm}$$

$$K := \text{conic} + .000$$

$$R = 312.5800 \text{ mm}$$

$$K = -0.249000$$

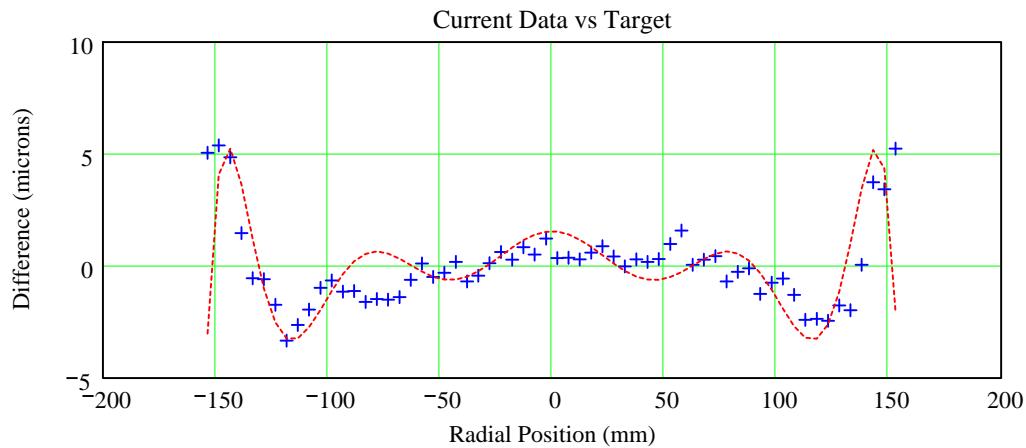
## Measurement of Profile

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Conjugate distances

Calculate error from target

This plot shows the deviation of the current data from the target asphere (tilt removed):

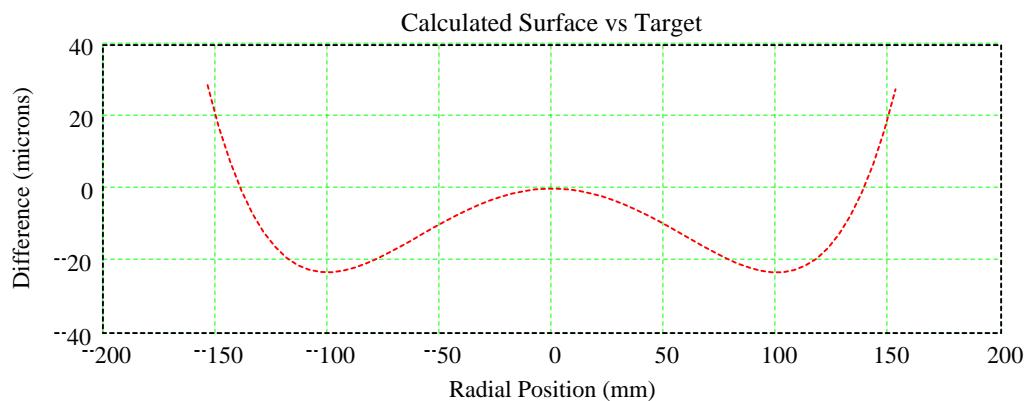


$$\text{PtoV(DIF2)} = 8.7226 \mu$$

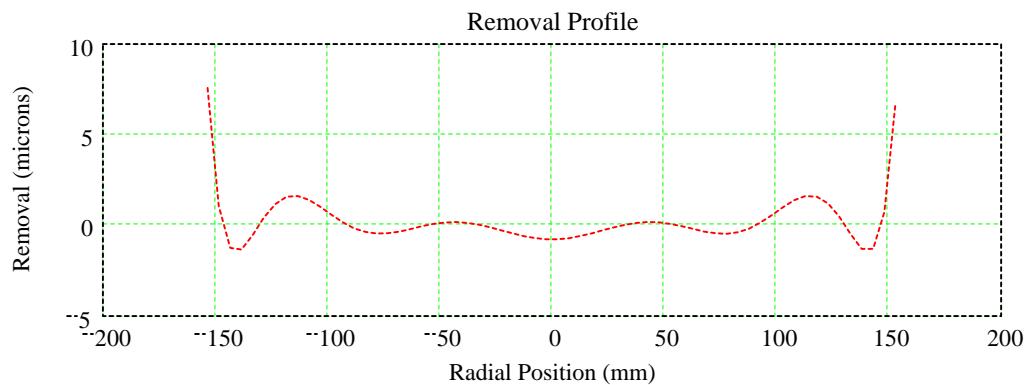
$$\text{RMS(DIF2)} = 1.8437 \mu$$

$$\text{newdecenter} \equiv -0.22$$

This plot compares the current asphere fit to the data with the target asphere:



This plot is the difference of the new data and the old data, a measure of removal:



$$\text{olddecenter} \equiv -0.1$$