## **Measurement of Profile**

Decenter data

$$data^{\langle 0 \rangle} := data^{\langle 0 \rangle} + new decenter$$

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

Surface Parameters -

Function describing probe trace

Calc surface touch points

Fit touchpoints to function

Sag eqn

Genfit function setup

Calc Surface Function -

$$\text{meassurf} = \begin{pmatrix} 3.189696 \times 10^{0} \\ -1.926470 \times 10^{-1} \\ 6.618585 \times 10^{-10} \\ -1.308717 \times 10^{-12} \\ 0.000000 \times 10^{0} \\ 0.000000 \times 10^{0} \end{pmatrix} \quad \text{TOL} \equiv .002 \quad \begin{pmatrix} 3.191568 \times 10^{0} \\ -1.988292 \times 10^{-1} \\ 5.729934 \times 10^{-10} \\ -9.647927 \times 10^{-13} \\ 0.000000 \times 10^{0} \\ 0.000000 \times 10^{0} \end{pmatrix}$$
CURRENT

OOKKEN

measrad = 313.5095 mm This is the measured vertex radius of the part oldrad = 313.3256 mm

measconic = -0.1926

This is the measured conic of the part

oldconic = -0.1988

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

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.

$$R := rad + .0 \cdot mm$$

$$K := conic + .000$$

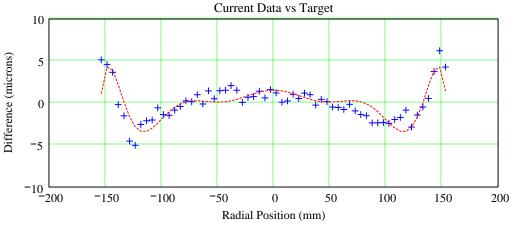
$$R = 312.5800 \, \text{mm}$$

$$K = -0.249000$$

Conjugate distances

Calculate error from target

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

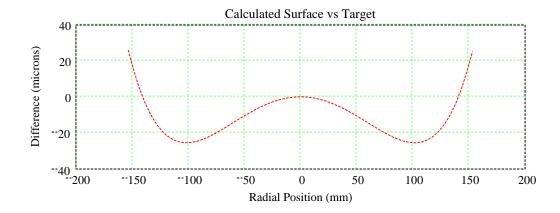


 $PtoV(DIF2) = 11.2545 \,\mu$ 

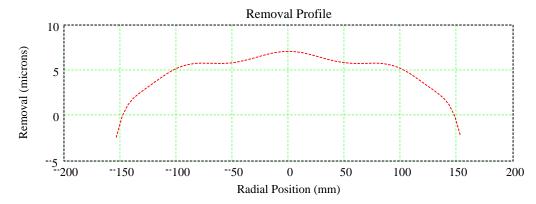
 $RMS(DIF2) = 2.0995 \,\mu$ 

 $newdecenter \equiv .05$ 

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:



olddecenter  $\equiv -0.1$