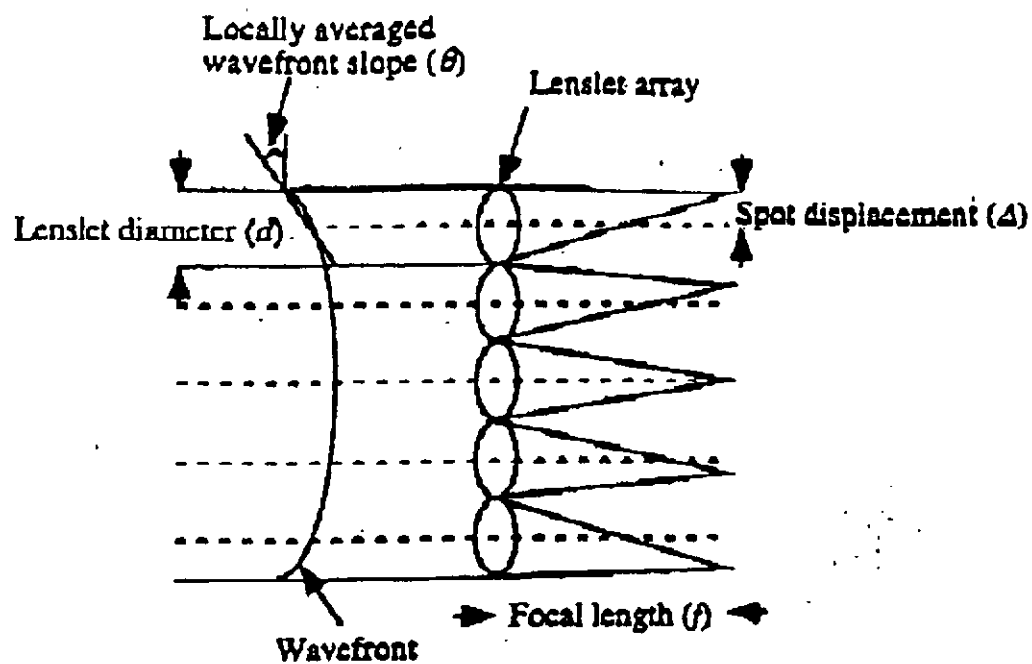


Effect of Lenslet Array Focal Length and Lenslet Diameter



* Measurement sensitivity :

$$\theta = \frac{\Delta}{f}$$

* Diffraction-limited spot size in diameter :

$$sd = 2.44 \frac{f}{d} \lambda = 2.44 \lambda F\#$$

Figure 1

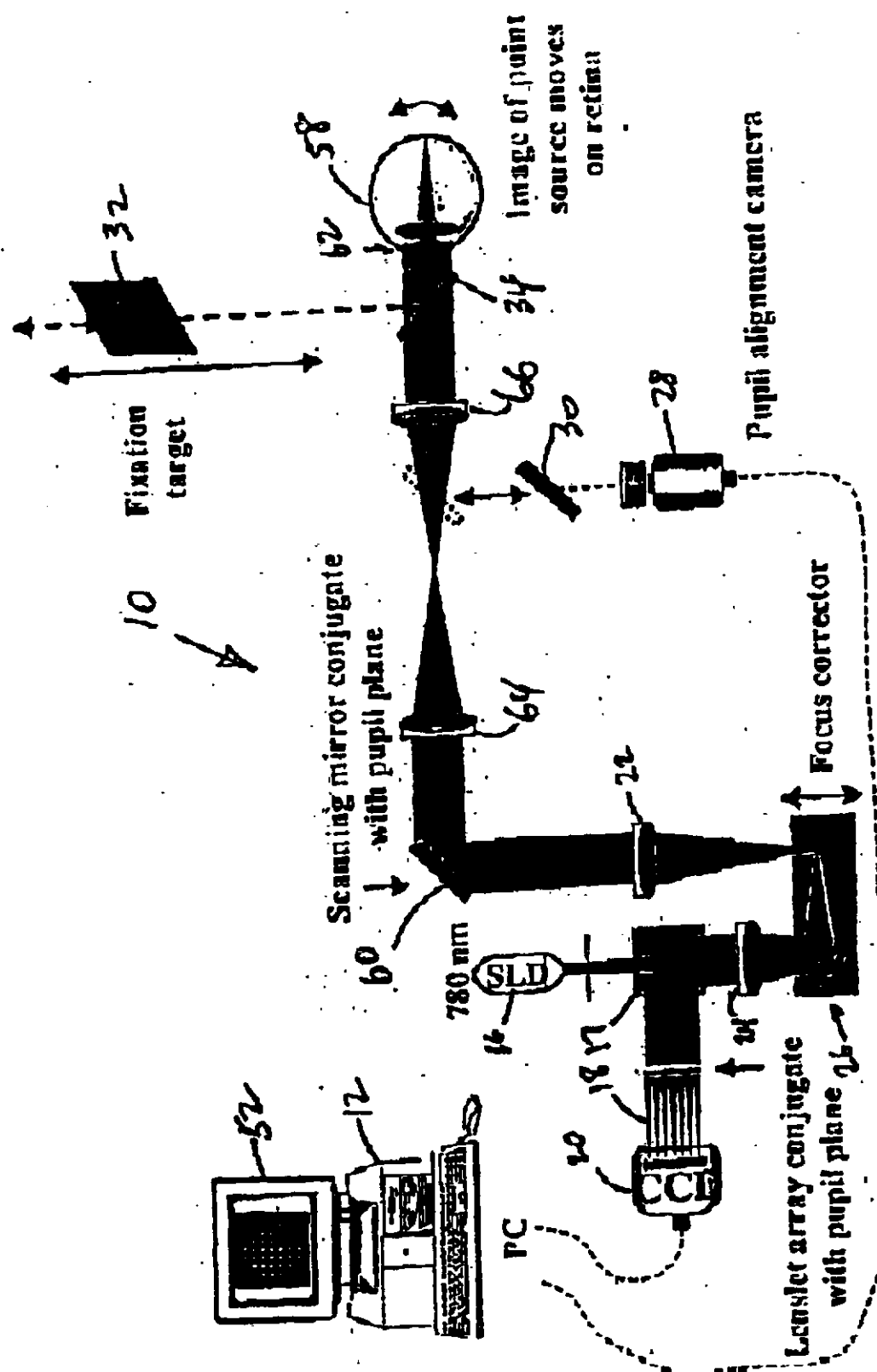


Figure 2

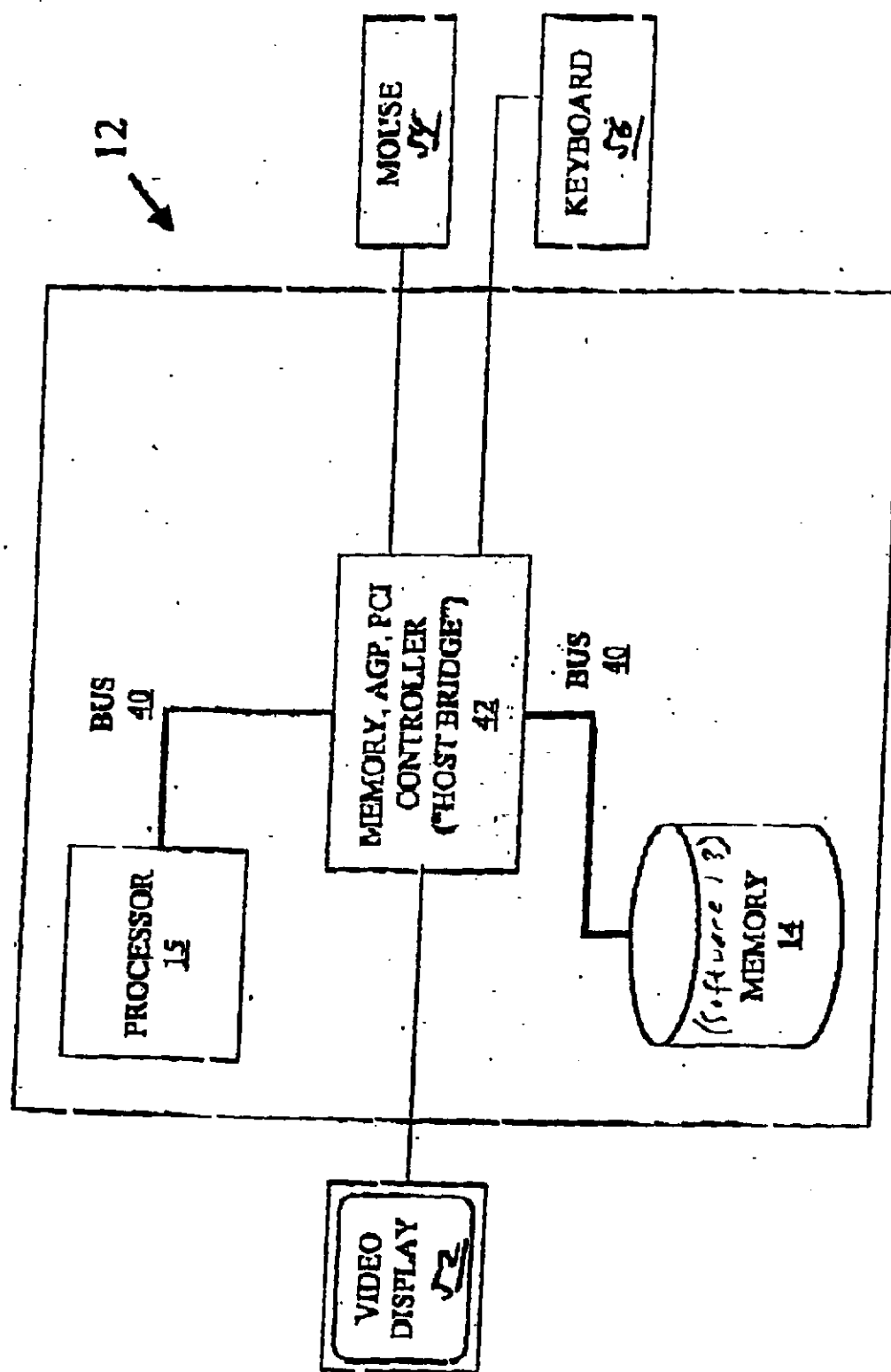


Fig. 3

0-22-07 2007: 153,911,177

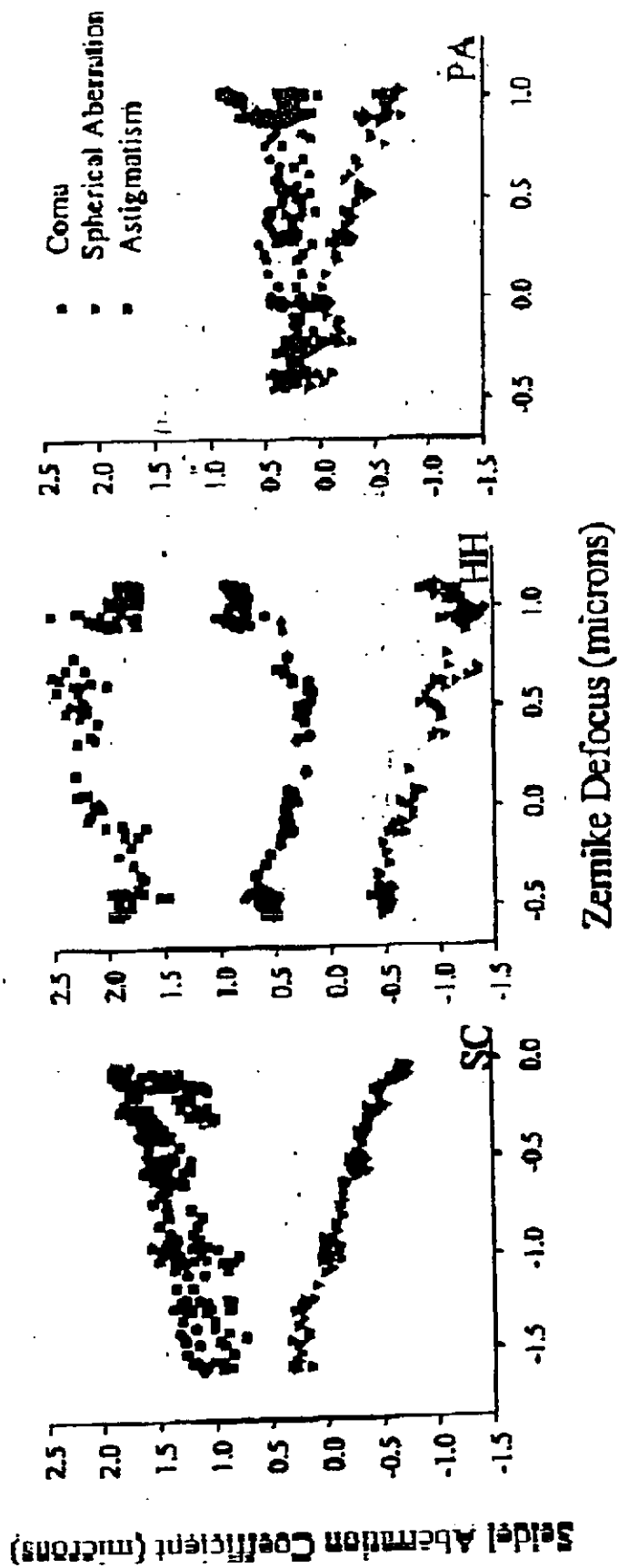


Figure 4

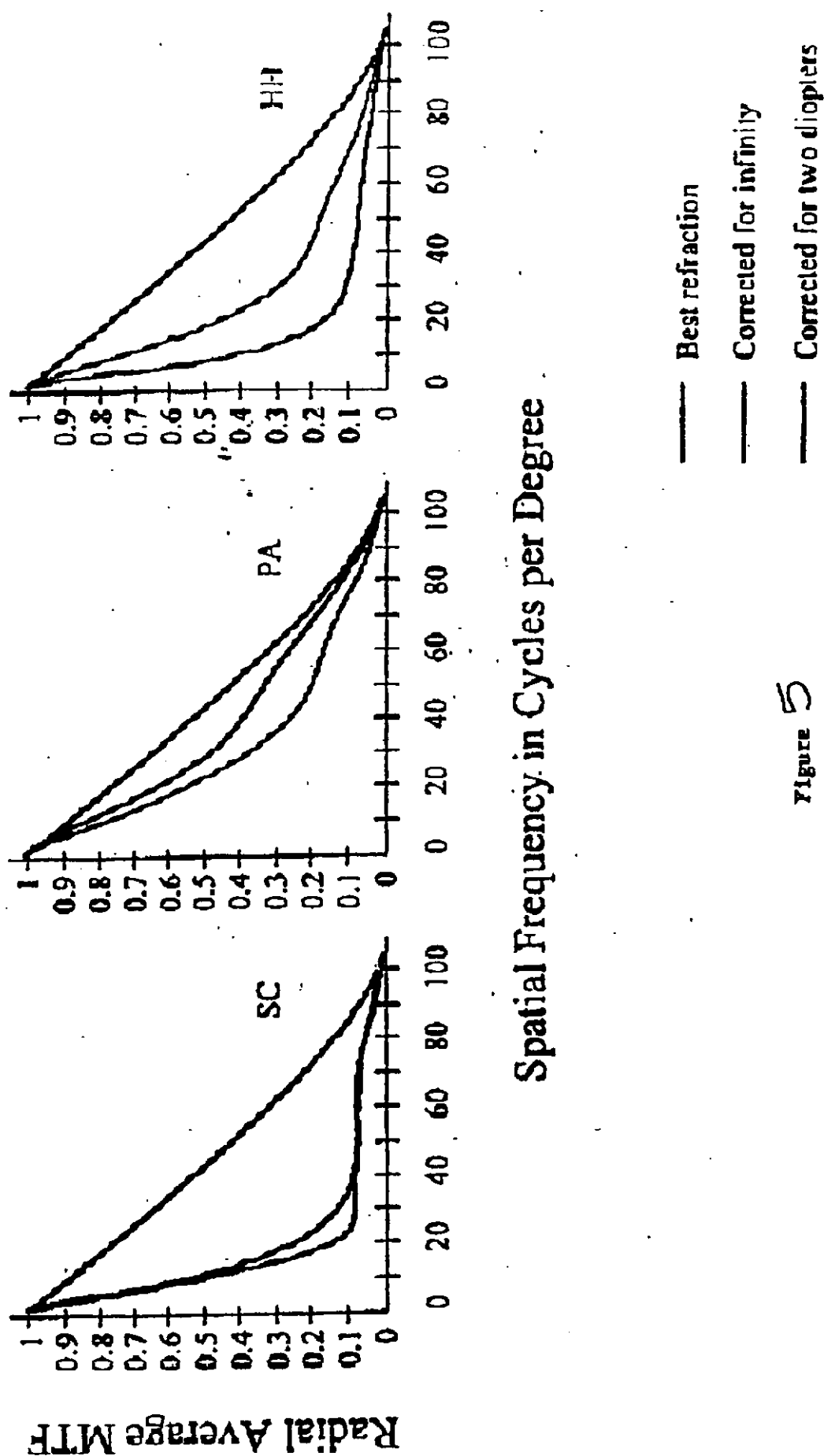
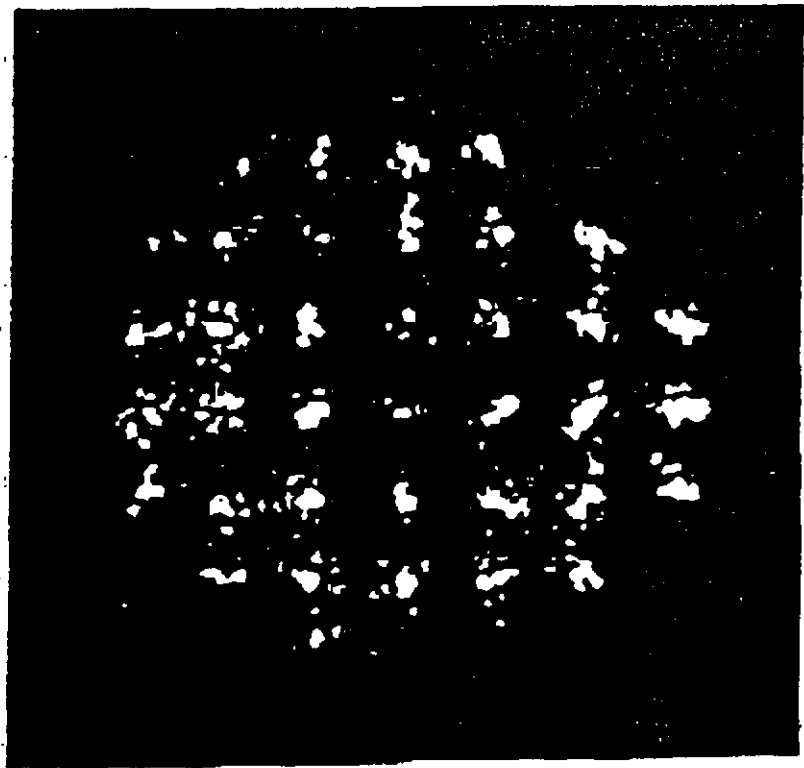


Figure 5

Wavefront Sensor Data for 20 msec Exposures

Without Scanning



With Scanning

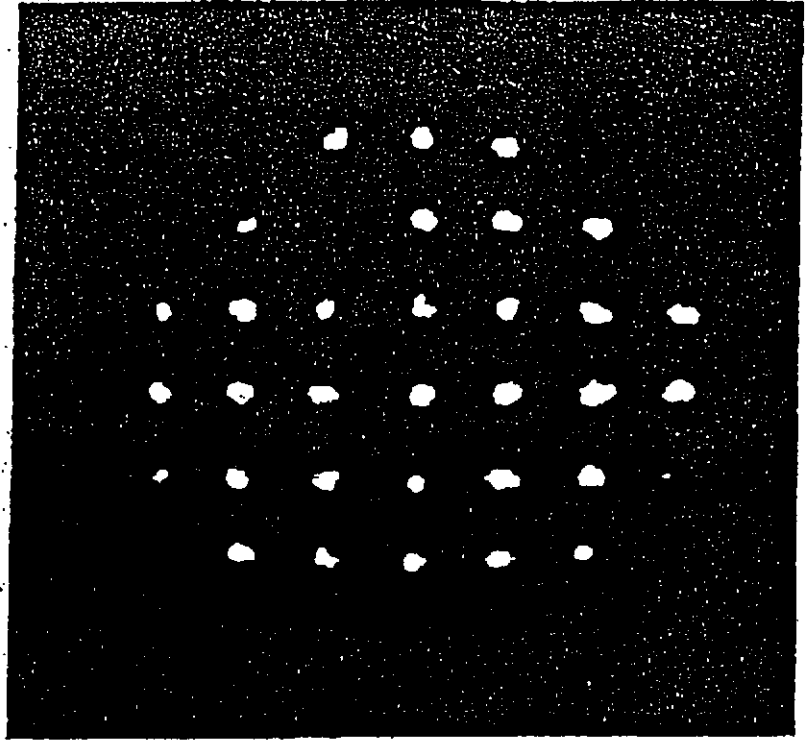


Figure 6

Wave Aberration Stability With and Without Scanning

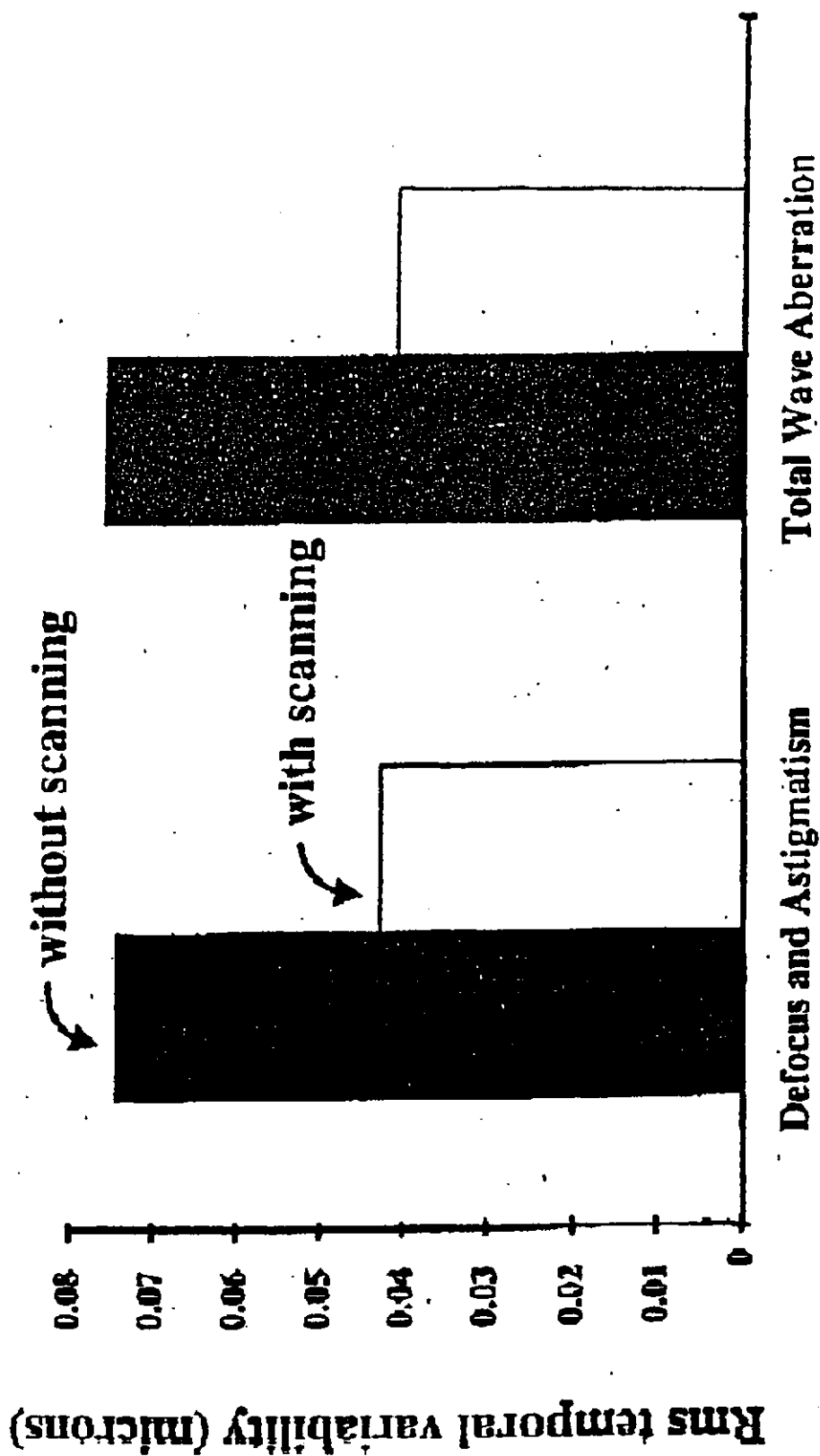


Figure 7

WO 01/28409

PCT/US00/29078

Figure 8A

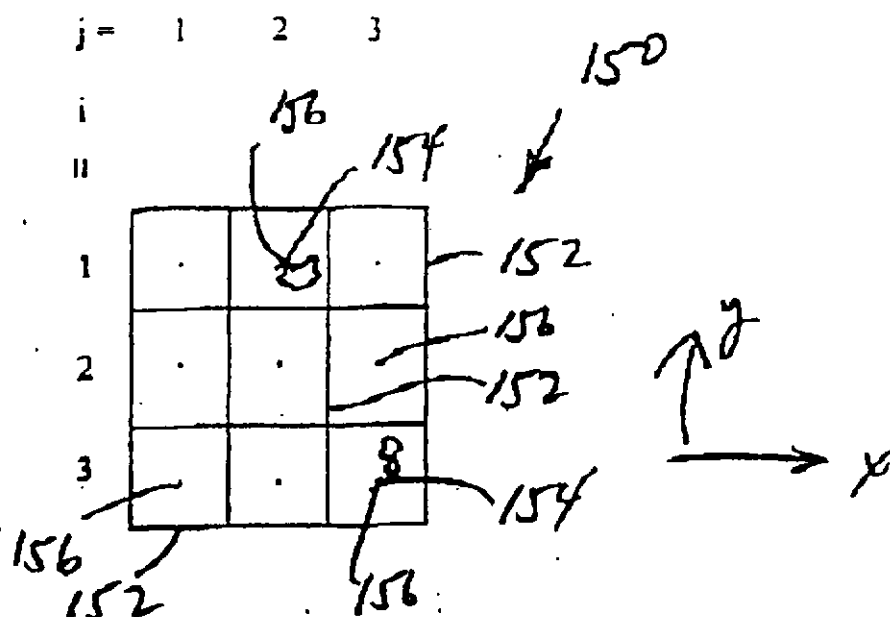
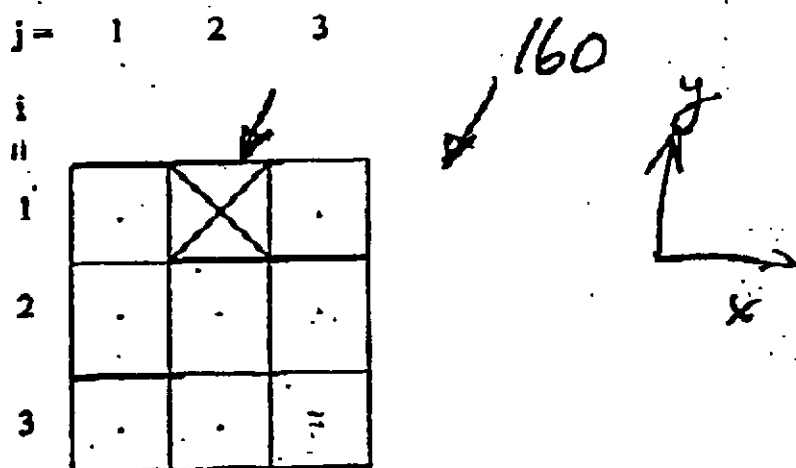
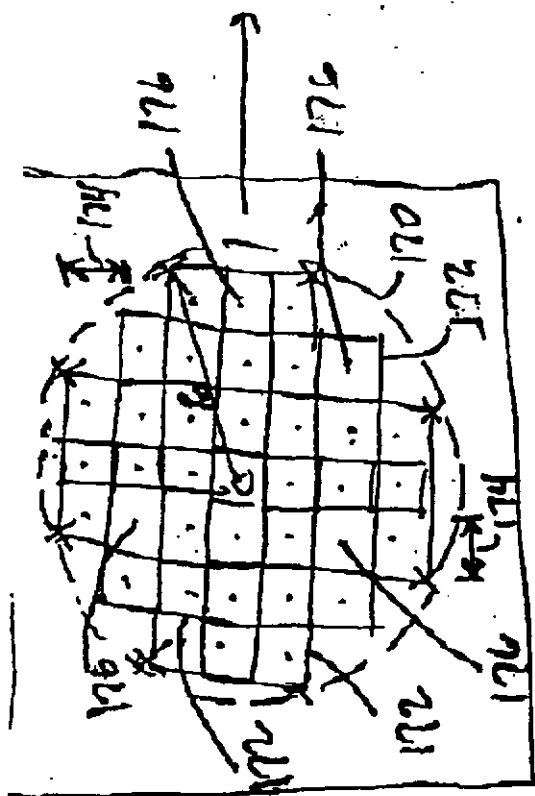


Figure 8B





178
centroid
calculation
w/ the "popul"
radius

180
create
offset
vectors
from reference
array

182
calculate
Zernike
Modes based
on R_0

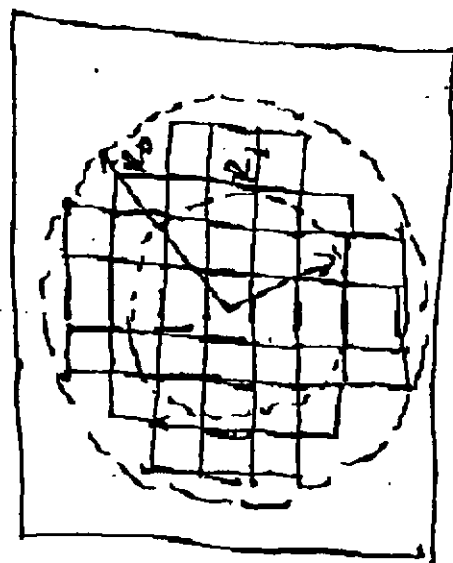


Fig 9

184

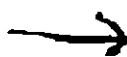
calculate
Zernike modes
based on

R_1 :
 $\{Z_{i,j}\}_{R_0} \rightarrow \{Z'_{i,j}\}_{R_1}$

Delete rows
of G corresponding 186
to displacements



calculate $\frac{1}{G} \frac{1}{5}$ - 188



calculate $\bar{a}$ - 190

Fig. 9 cont'd

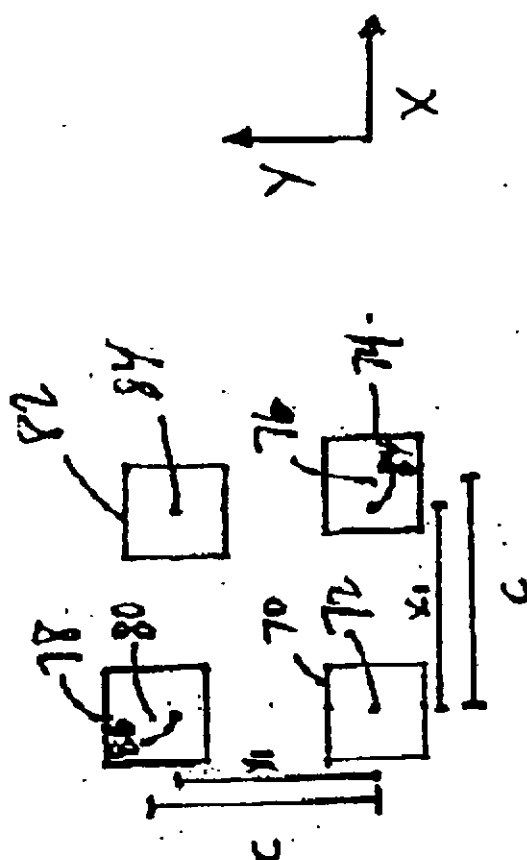


Fig. 10

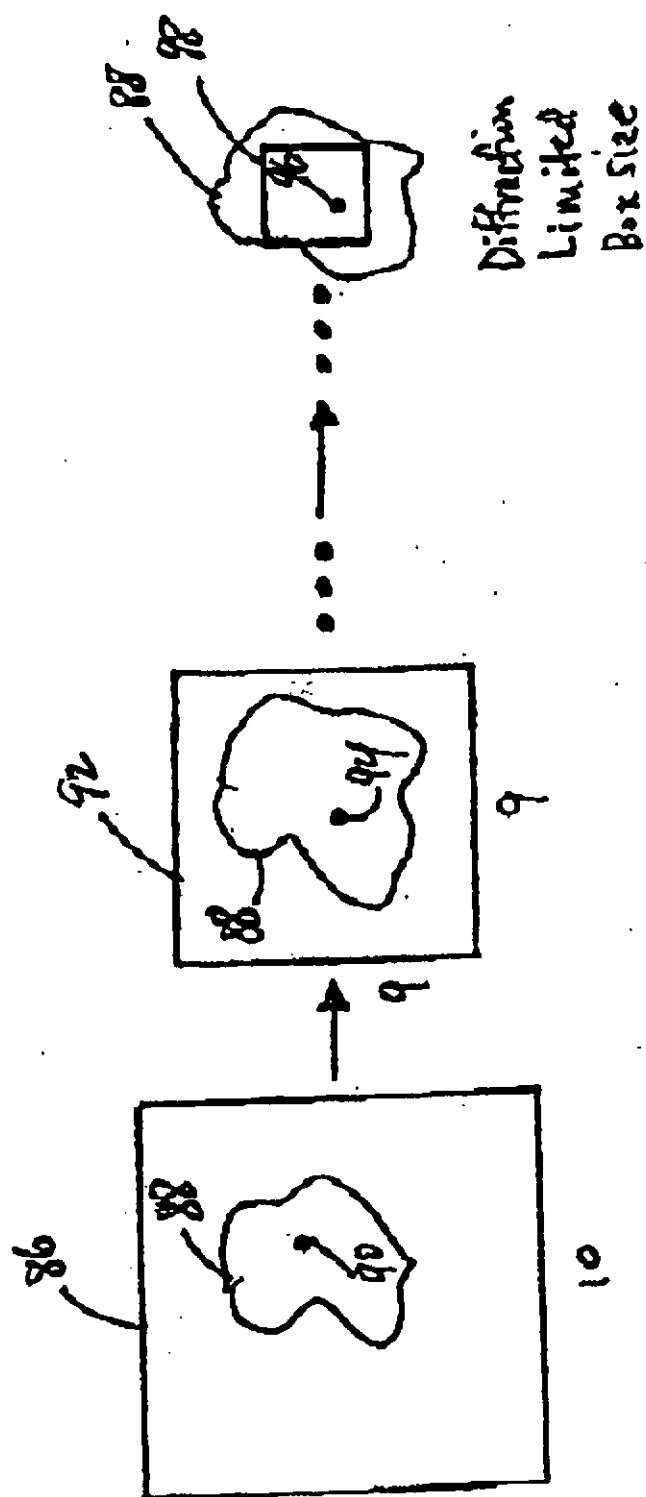


FIG. 11

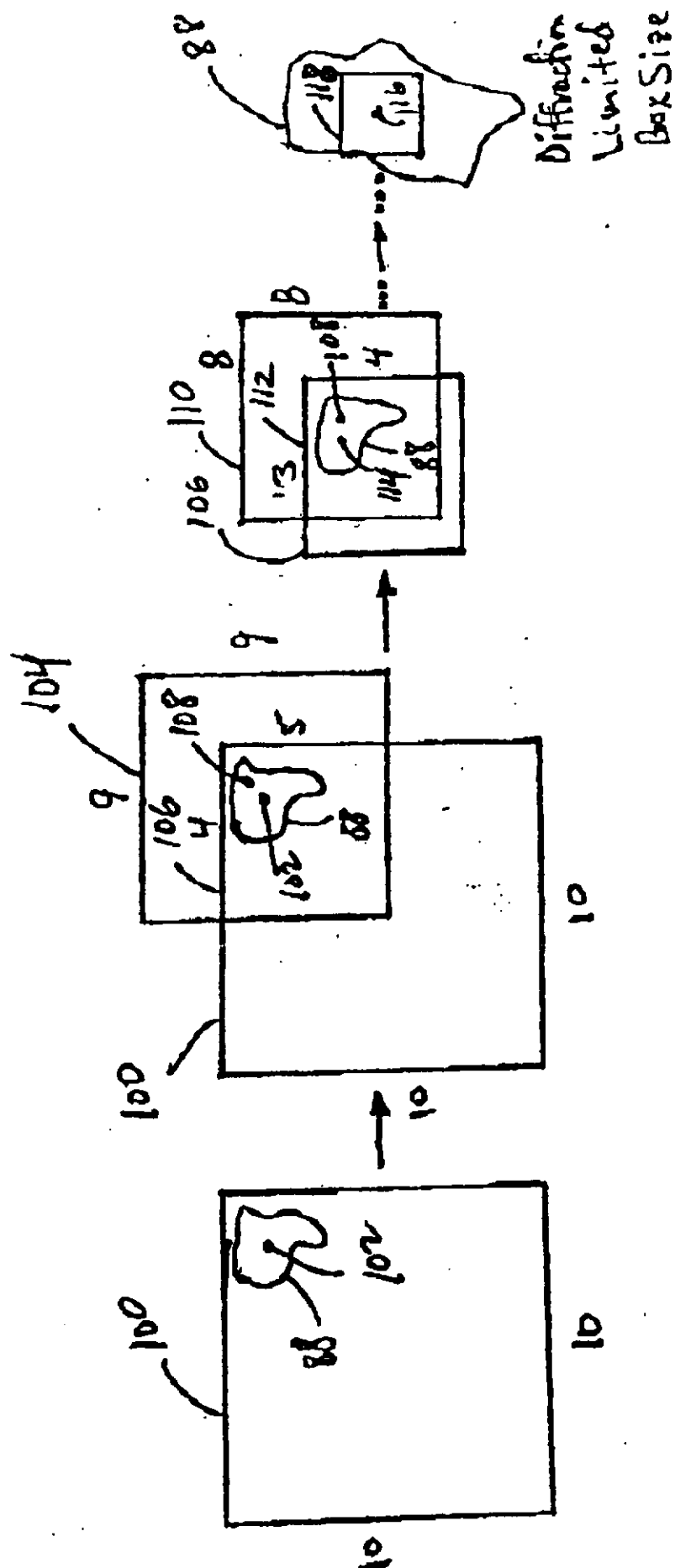


FIG. 12

Figure 13

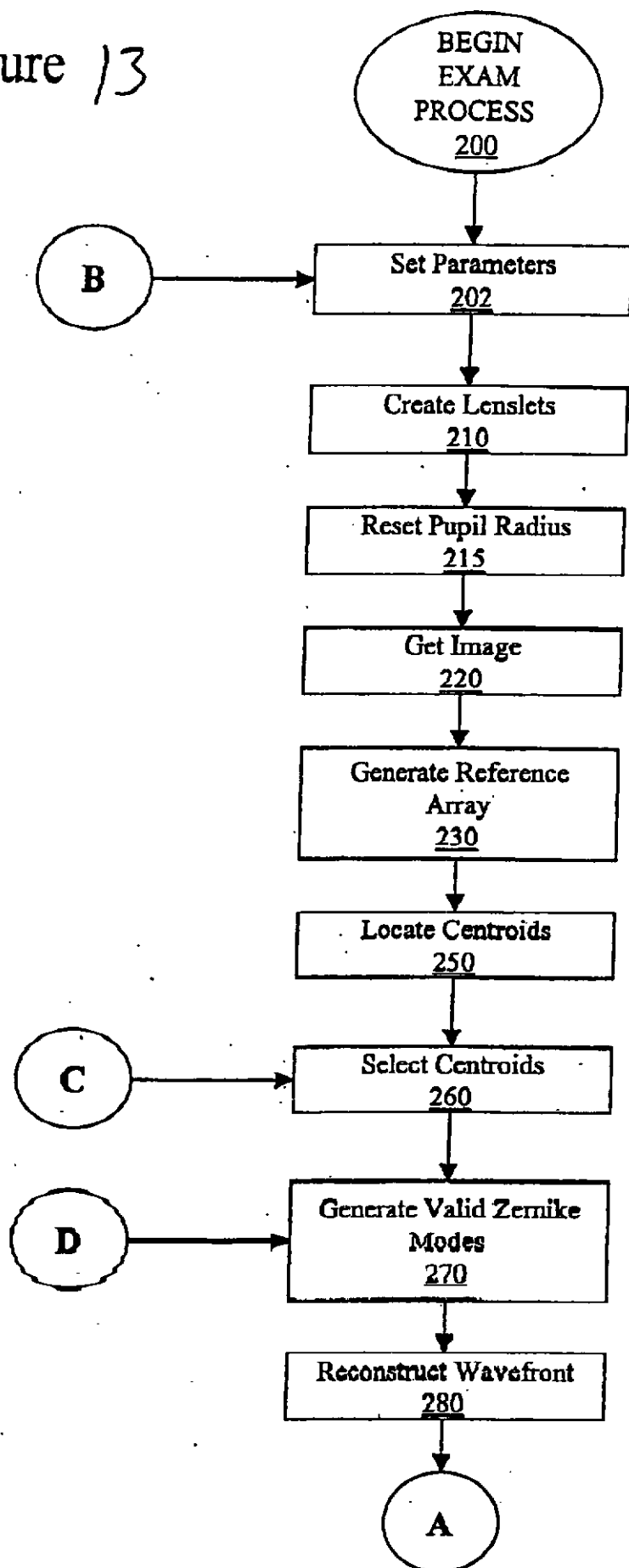


Figure 14

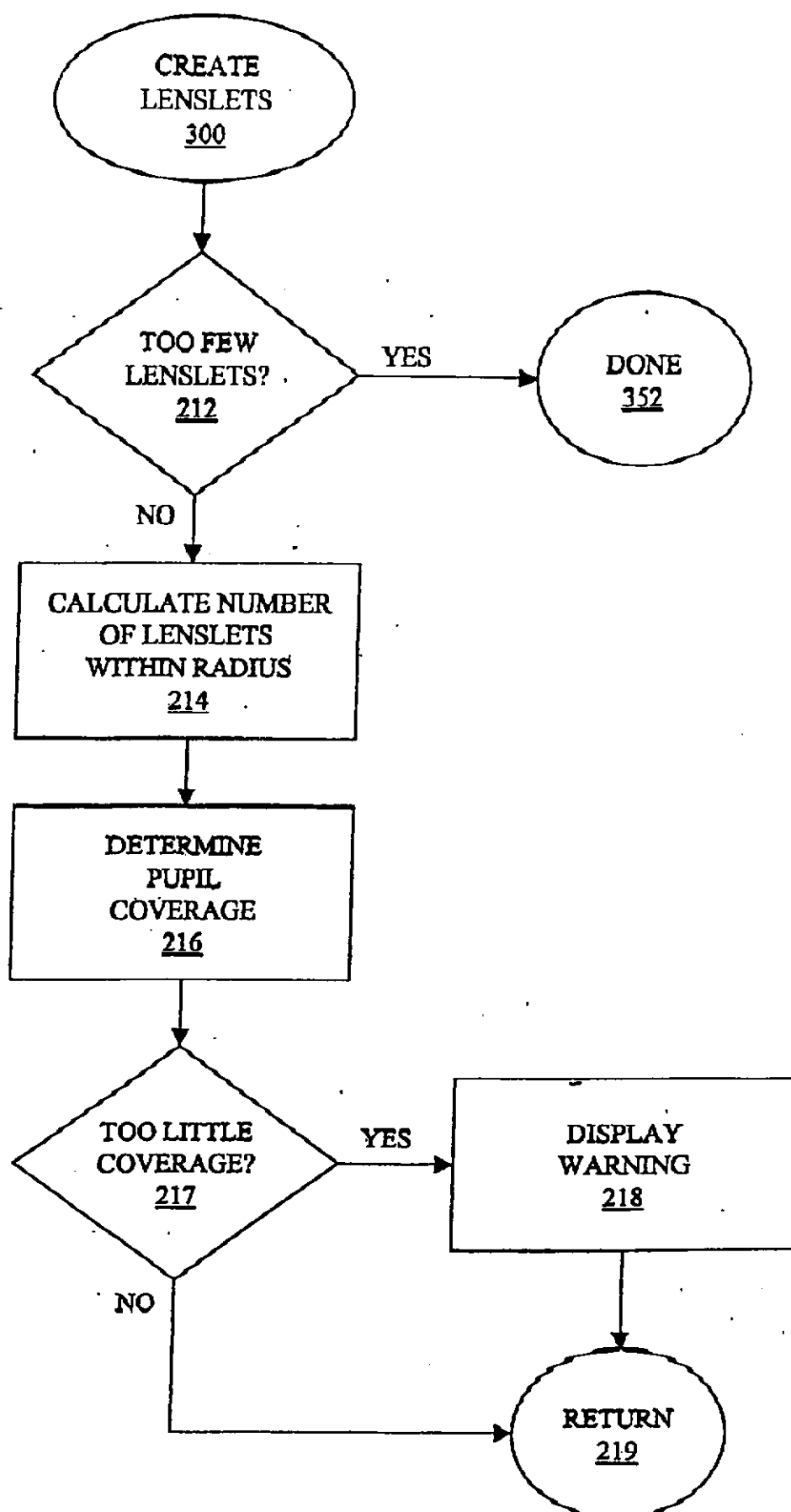


Figure 15

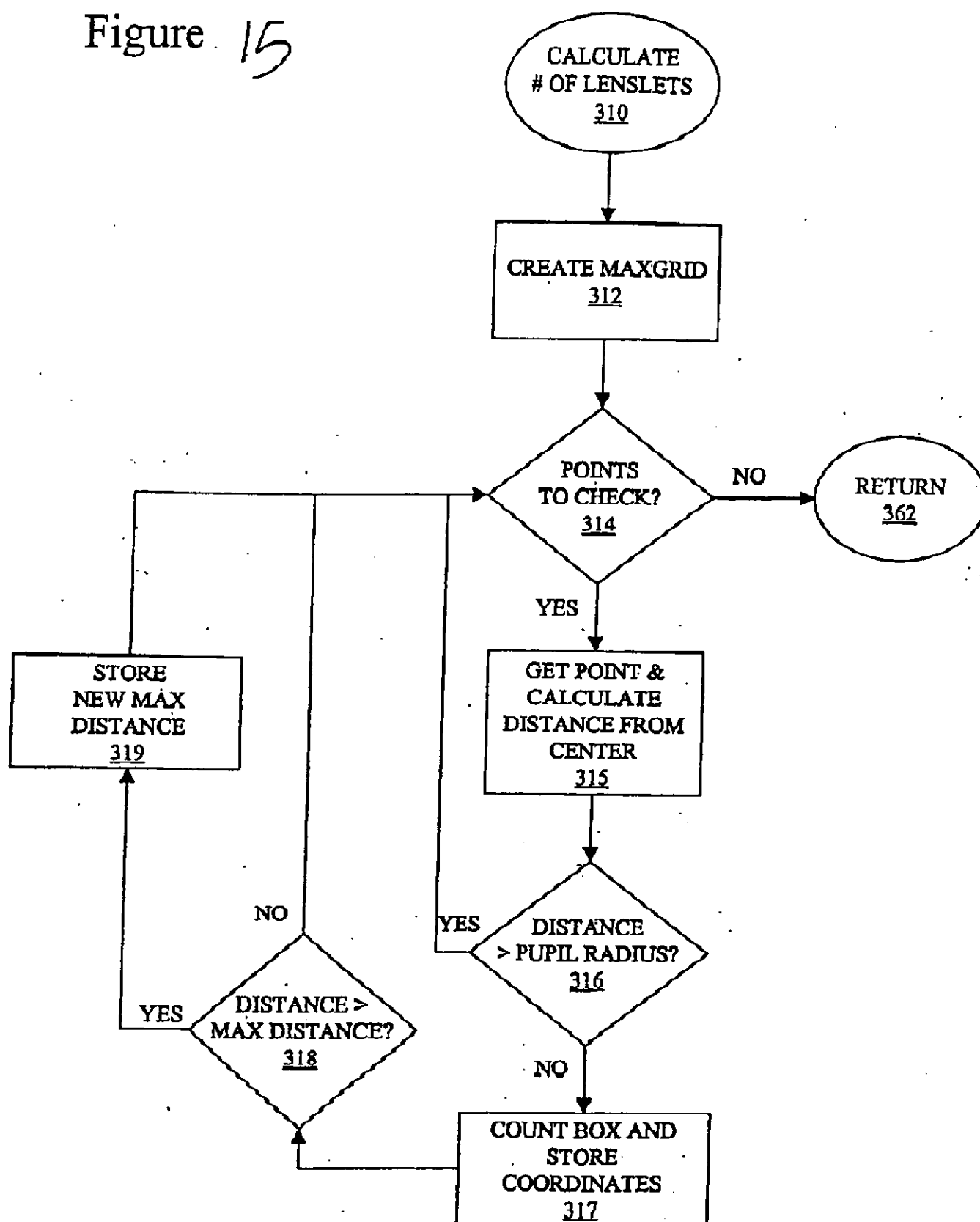


Figure 16

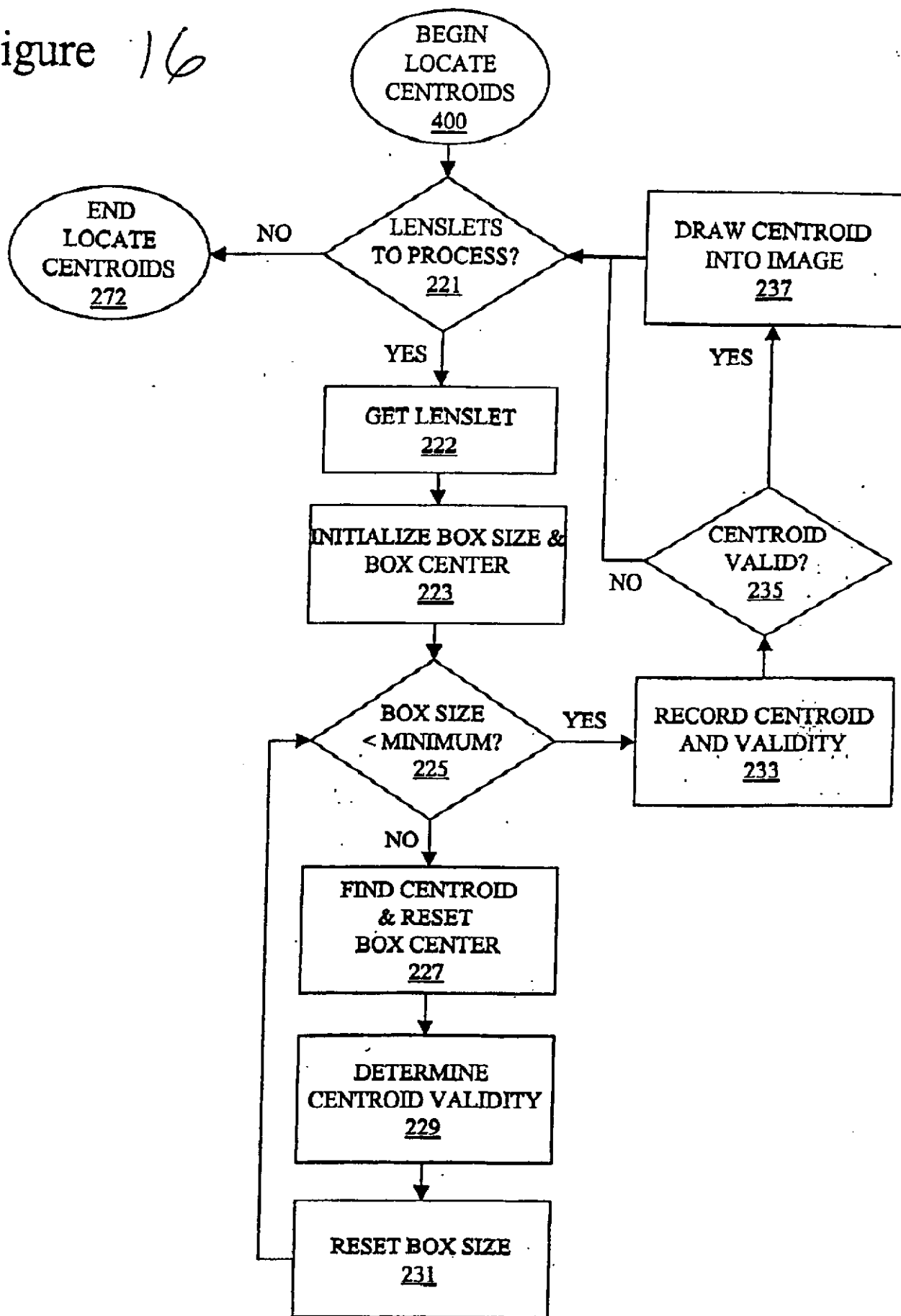
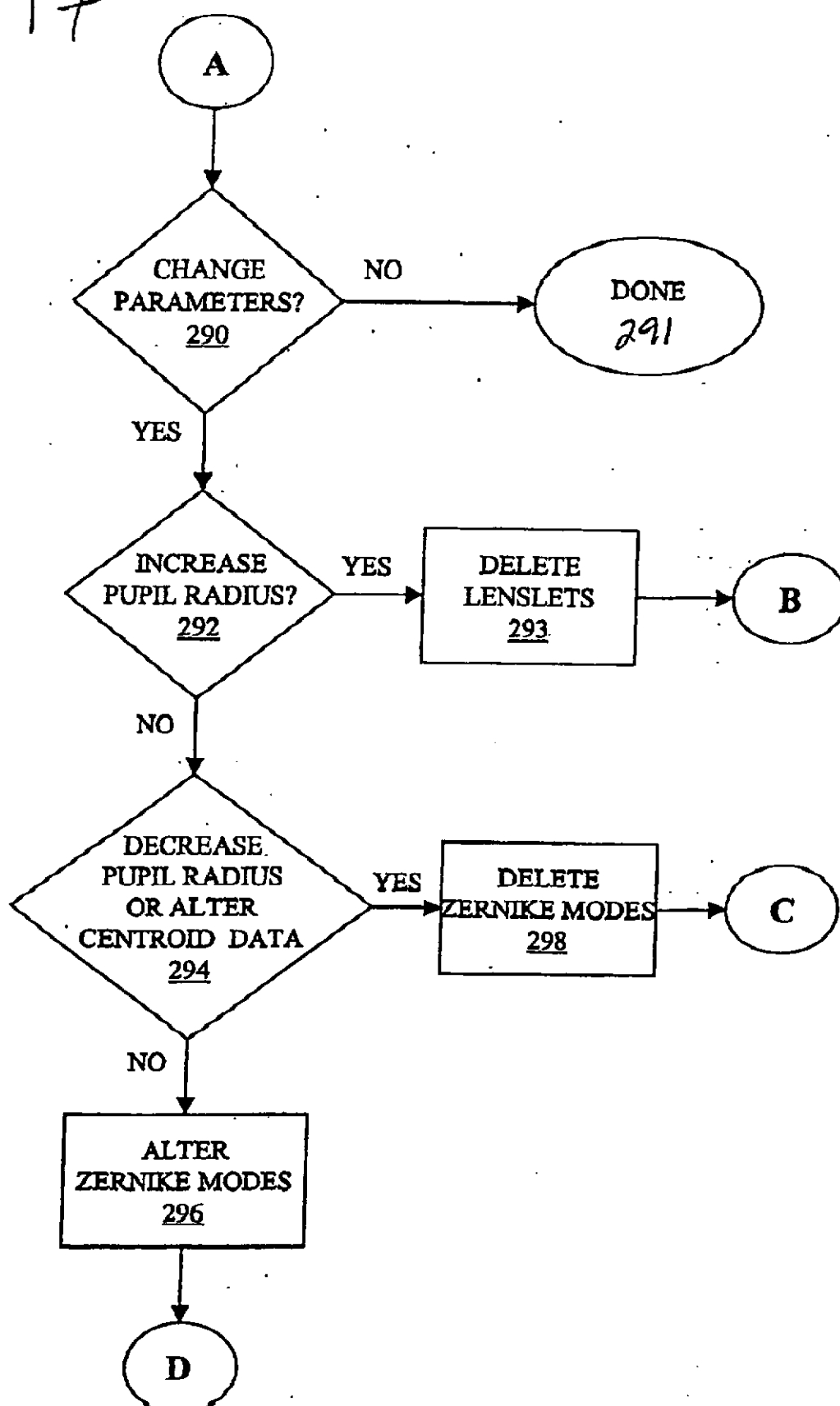
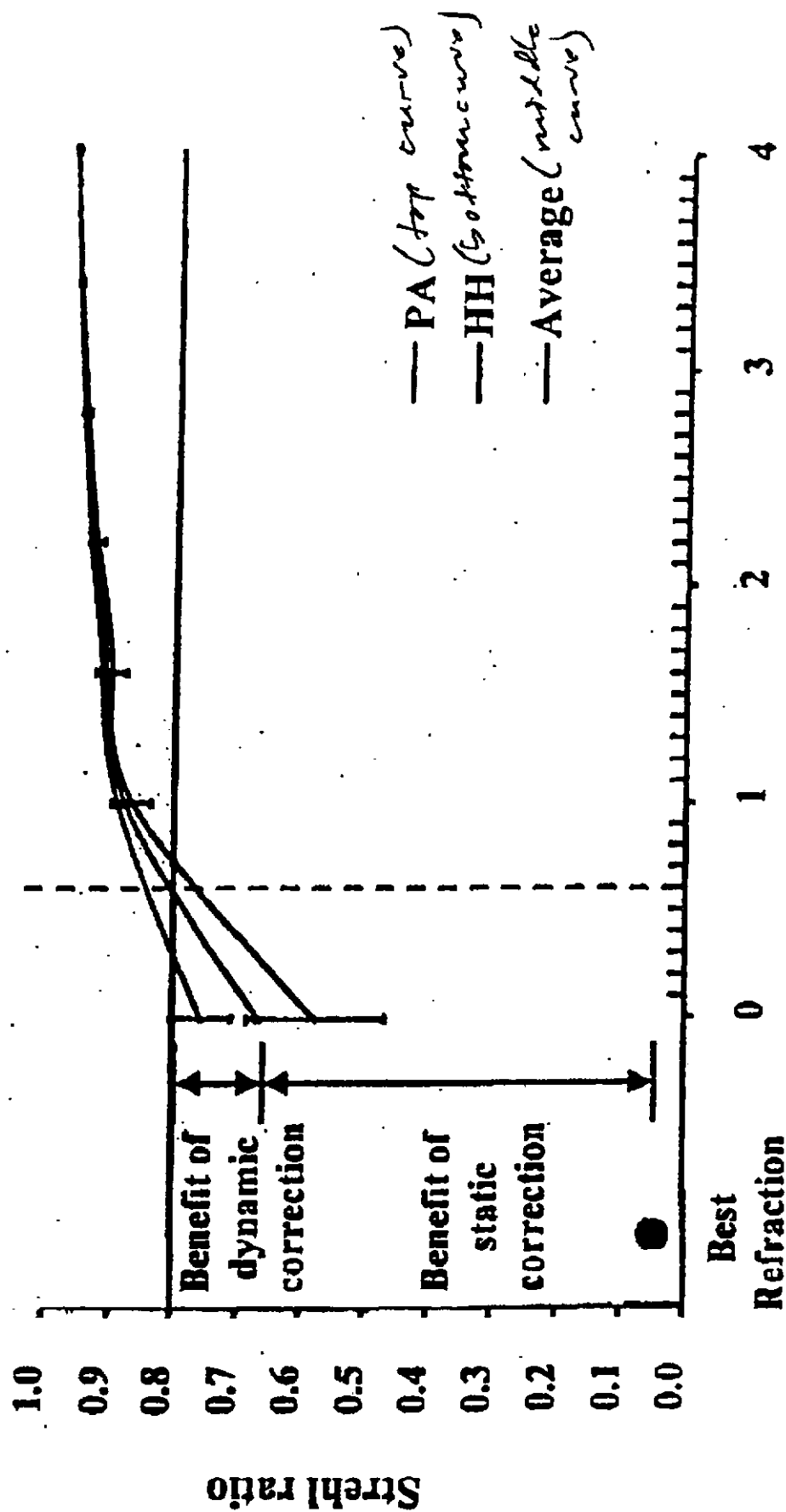


Figure 17



Time averaged Strehl ratio vs. bandwidth of perfect AO system for natural accommodation with far target and 5.8 mm pupil



Bandwidth of perfect AO system in Hertz

Figure 18