

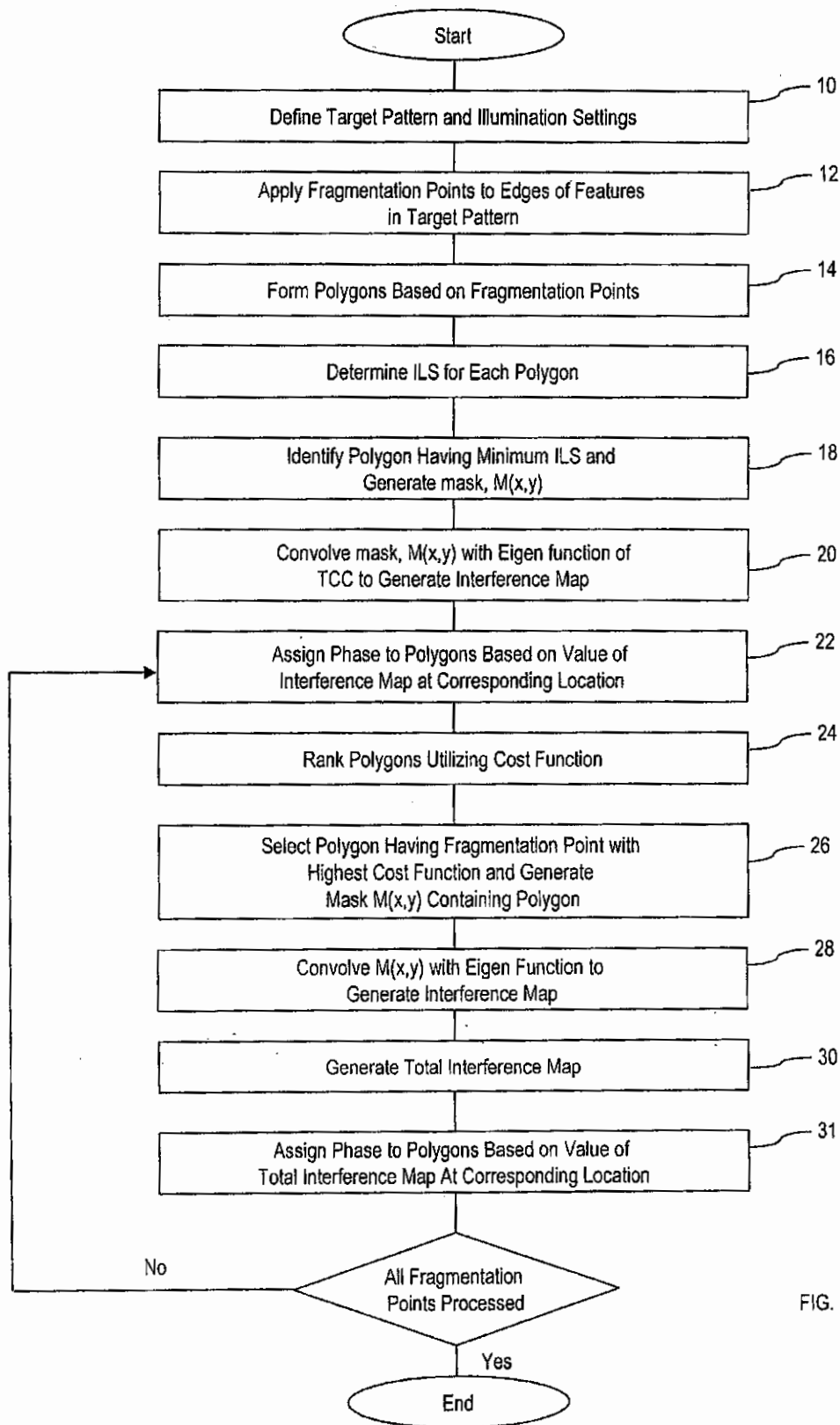
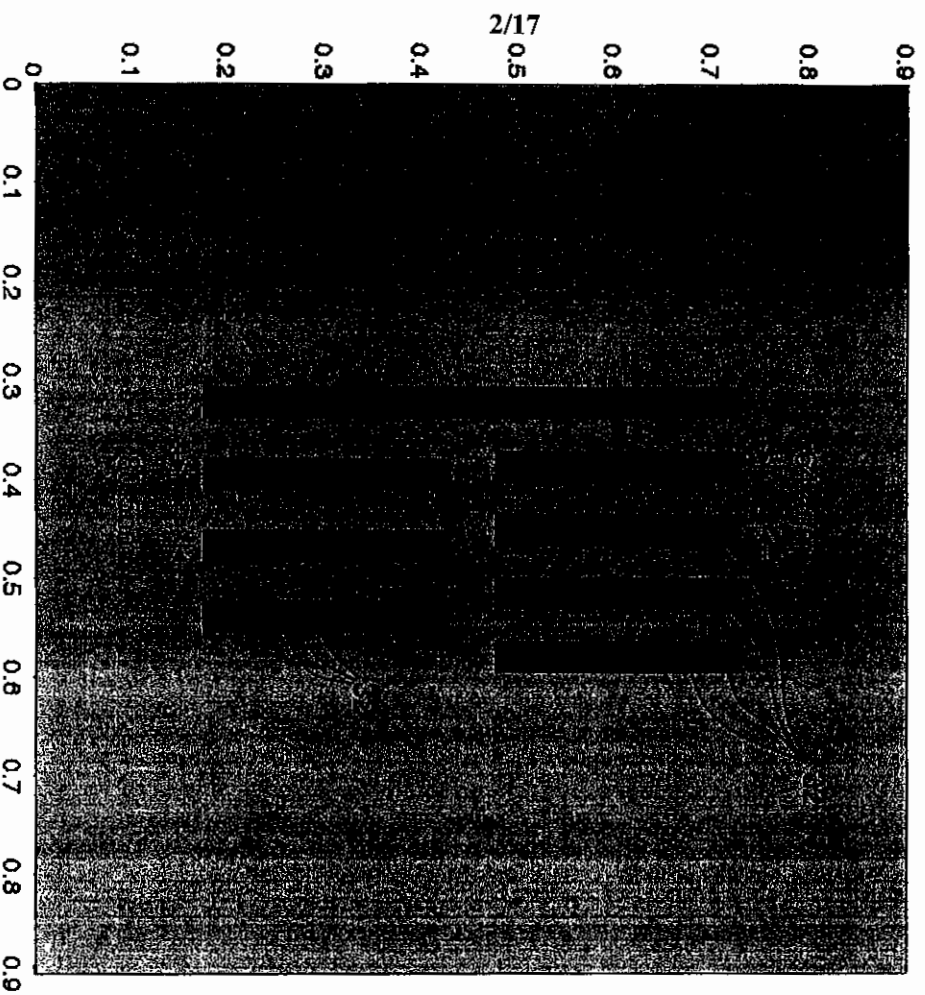


FIG. 1

Mask pattern to be split



Min. half pitch=32.2nm

$k_1=0.2$

NA=1.2

$\lambda=193\text{nm}$

Annular illumination to be used
 $\sigma_{\text{in}}=0.77$ $\sigma_{\text{out}}=0.97$

FIG. 2

Apply snippets

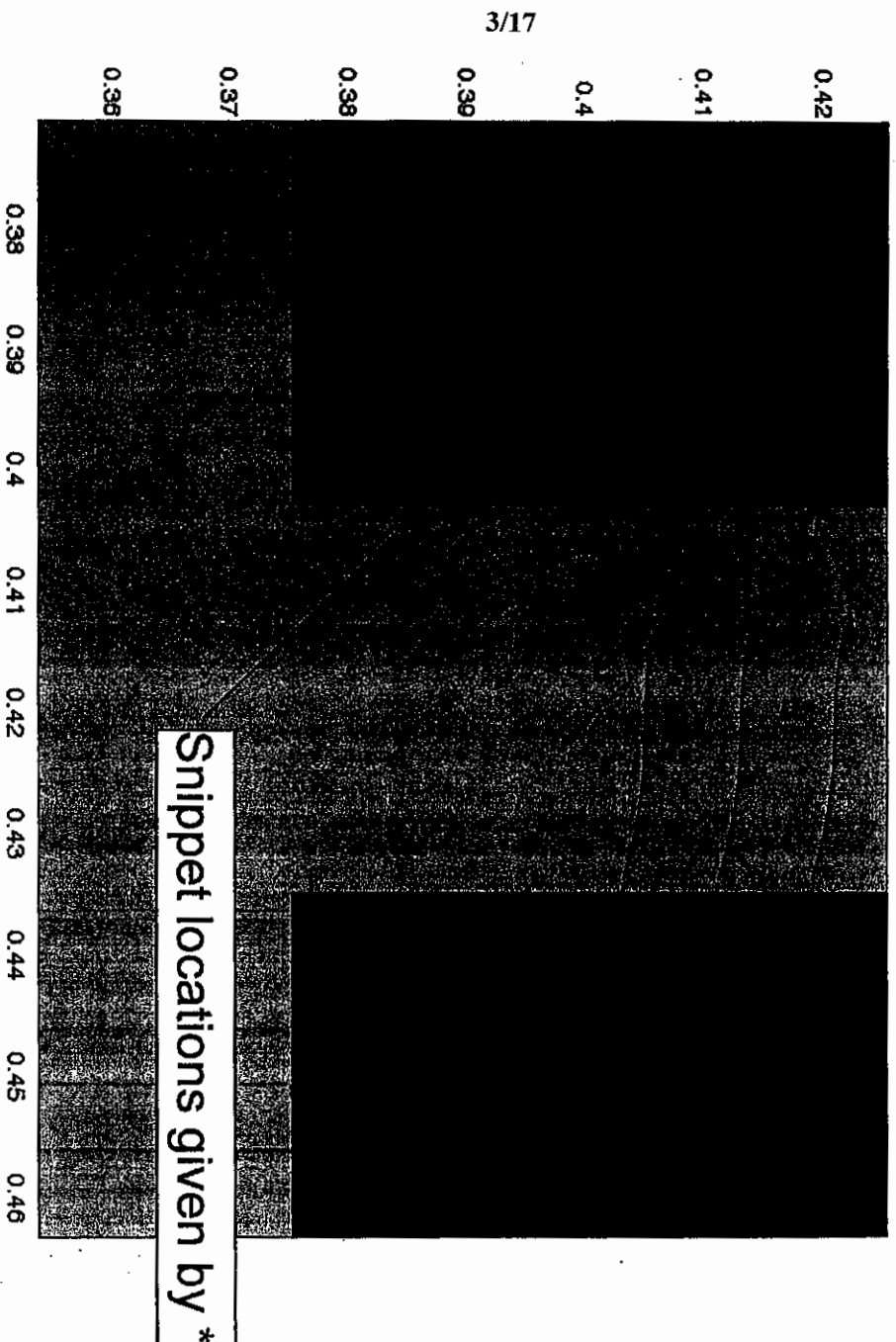
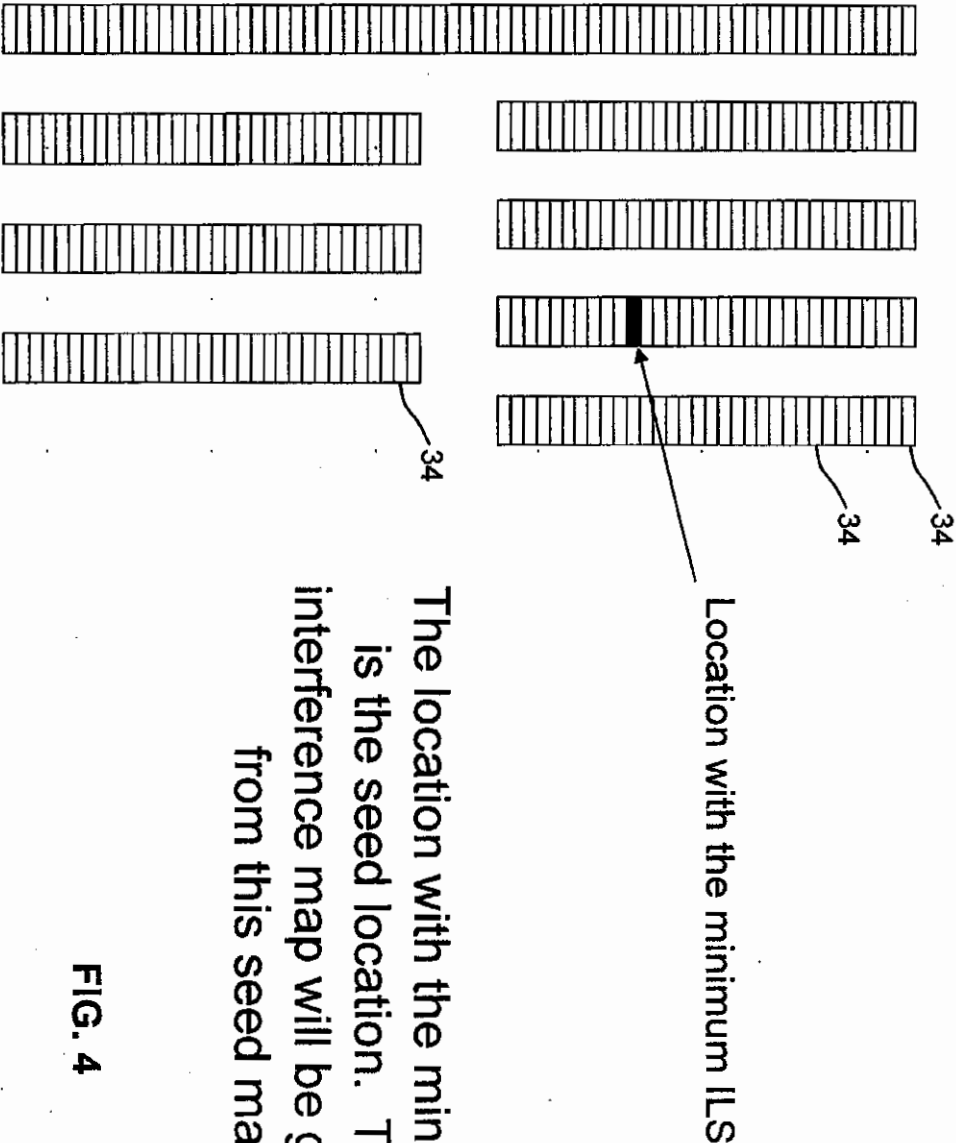


FIG. 3

Create Polygons from the snippets



The location with the minimum ILS is the seed location. The first interference map will be generated from this seed mask

FIG. 4

Create a mask with the polygon with lowest IL-S

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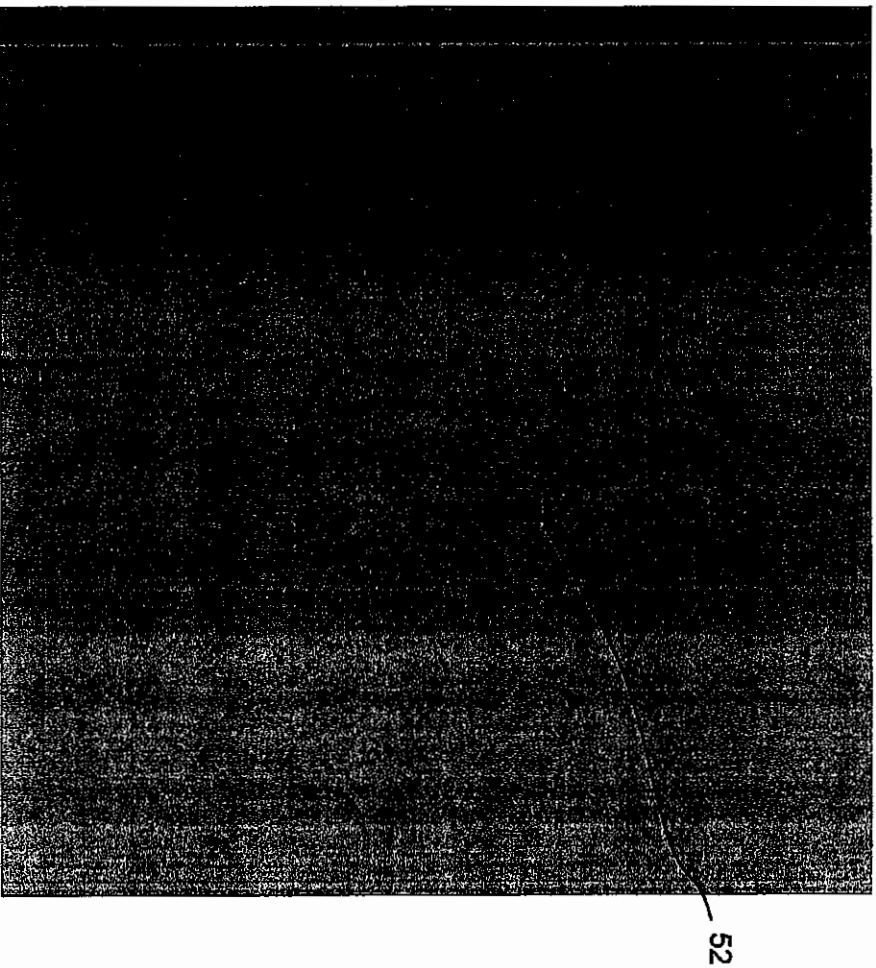
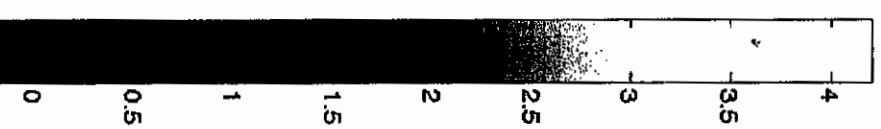
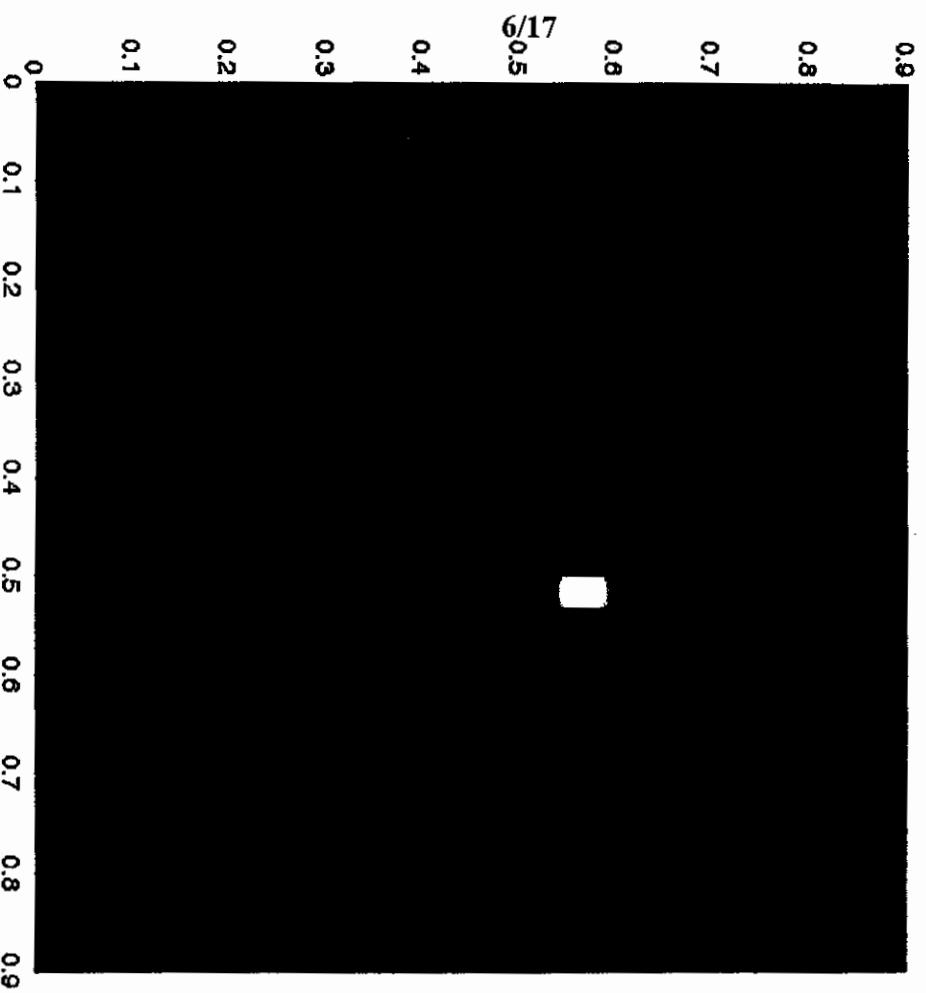


FIG. 5

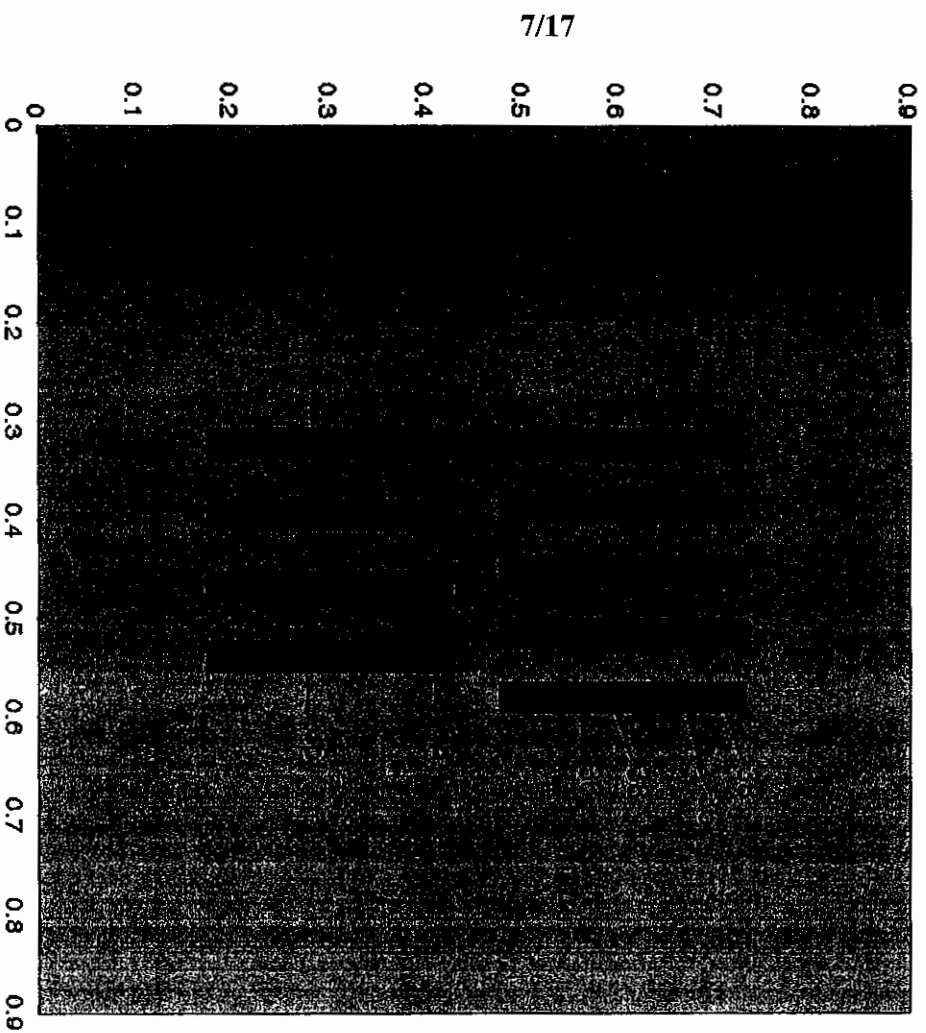
Interference Map after one iteration



Interference map
generated with:
 $\text{NA}=1.2$
 $\lambda=193\text{nm}$
Annular illumination
 $\sigma_{\text{in}}=0.77$ $\sigma_{\text{out}}=0.97$

FIG. 6

Mask after one iteration



- Red areas are assigned to Exposure #1
- Blue areas are assigned to Exposure #2

FIG. 7

**Create a mask with the polygon with highest cost
function**

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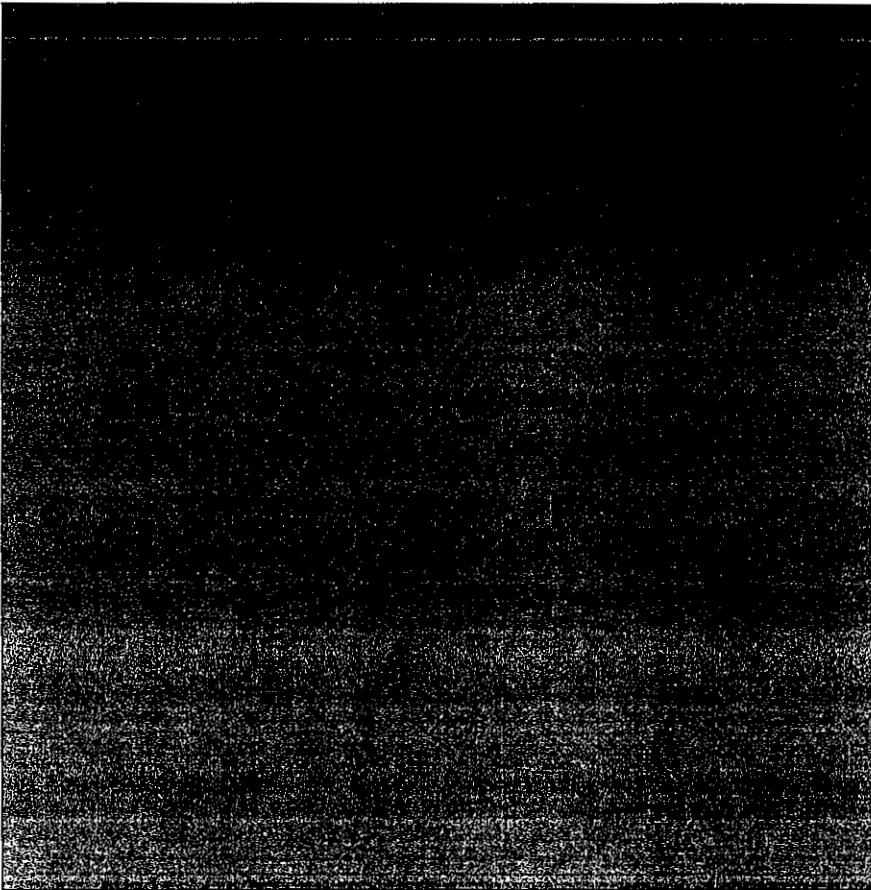
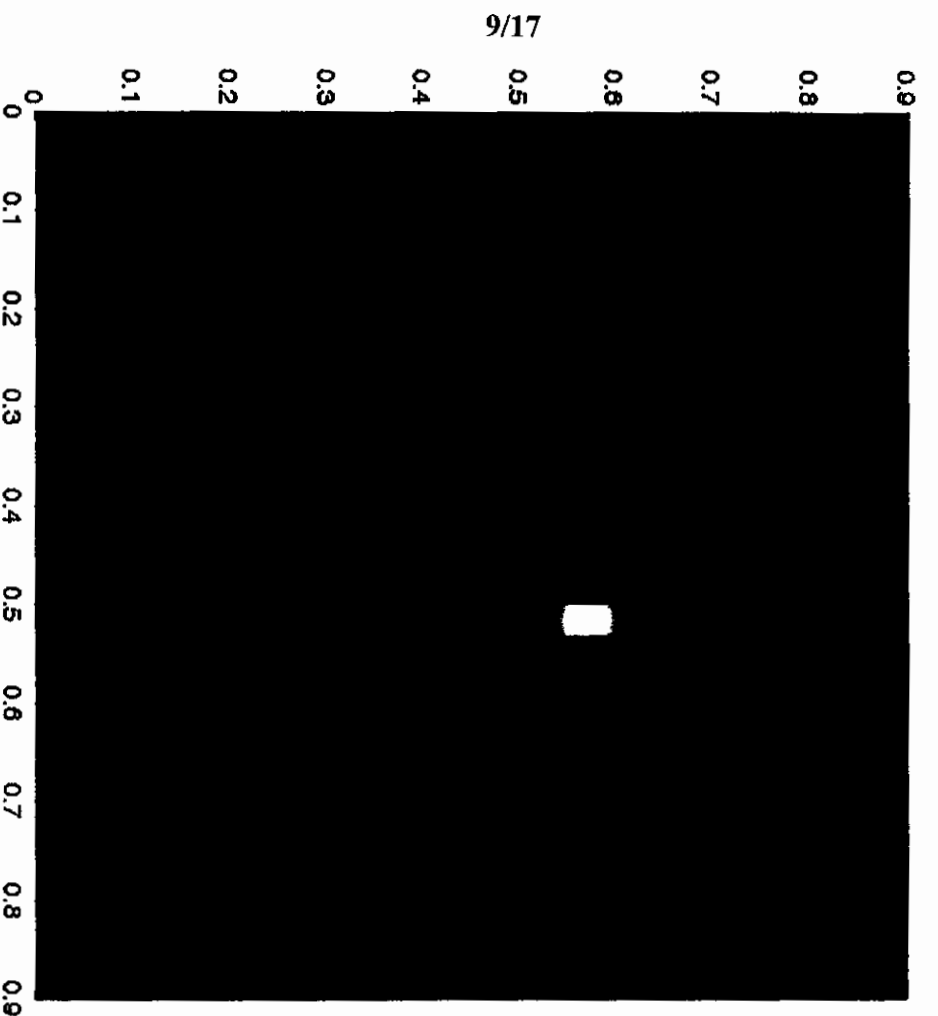


FIG. 8

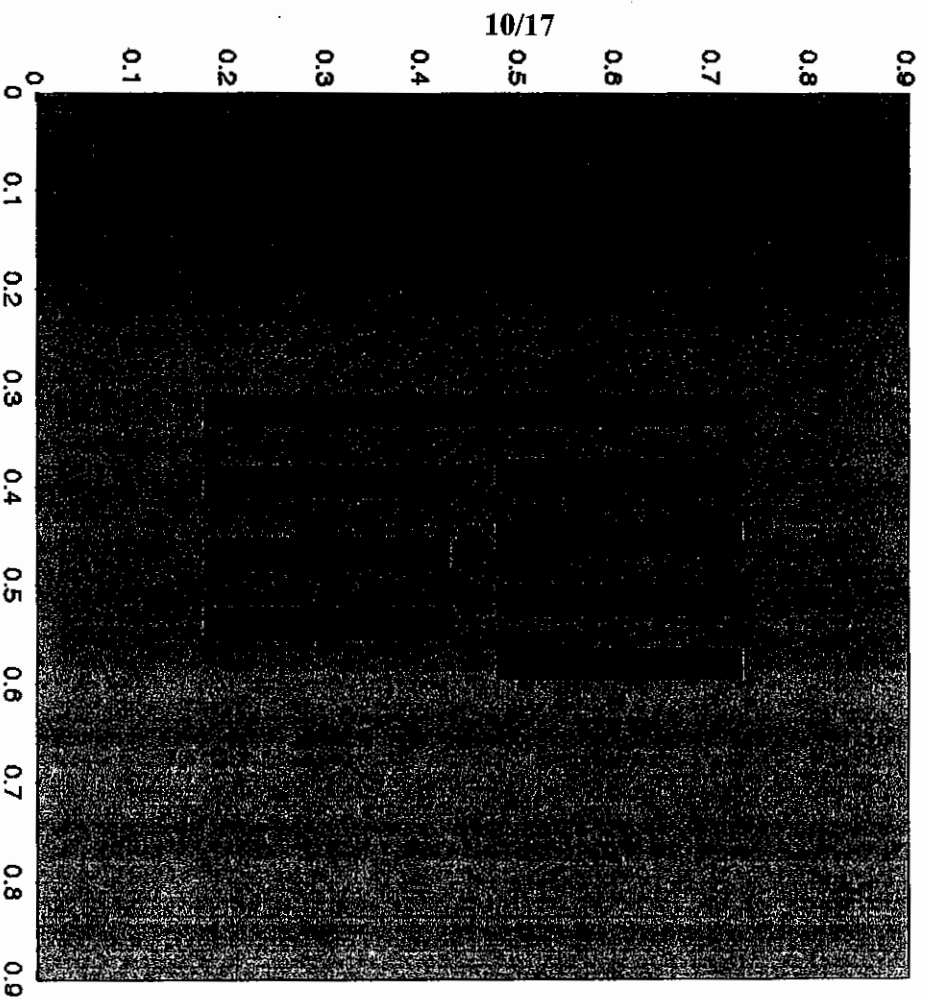
Total Interference Map after two iterations



Interference map
generated with:
NA=1.2
 $\lambda=193\text{nm}$
Annular illumination
 $\sigma_{\text{in}}=0.77$ $\sigma_{\text{out}}=0.97$

FIG. 9

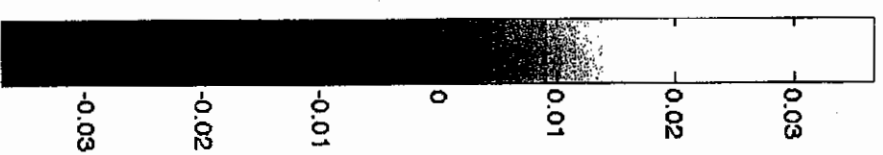
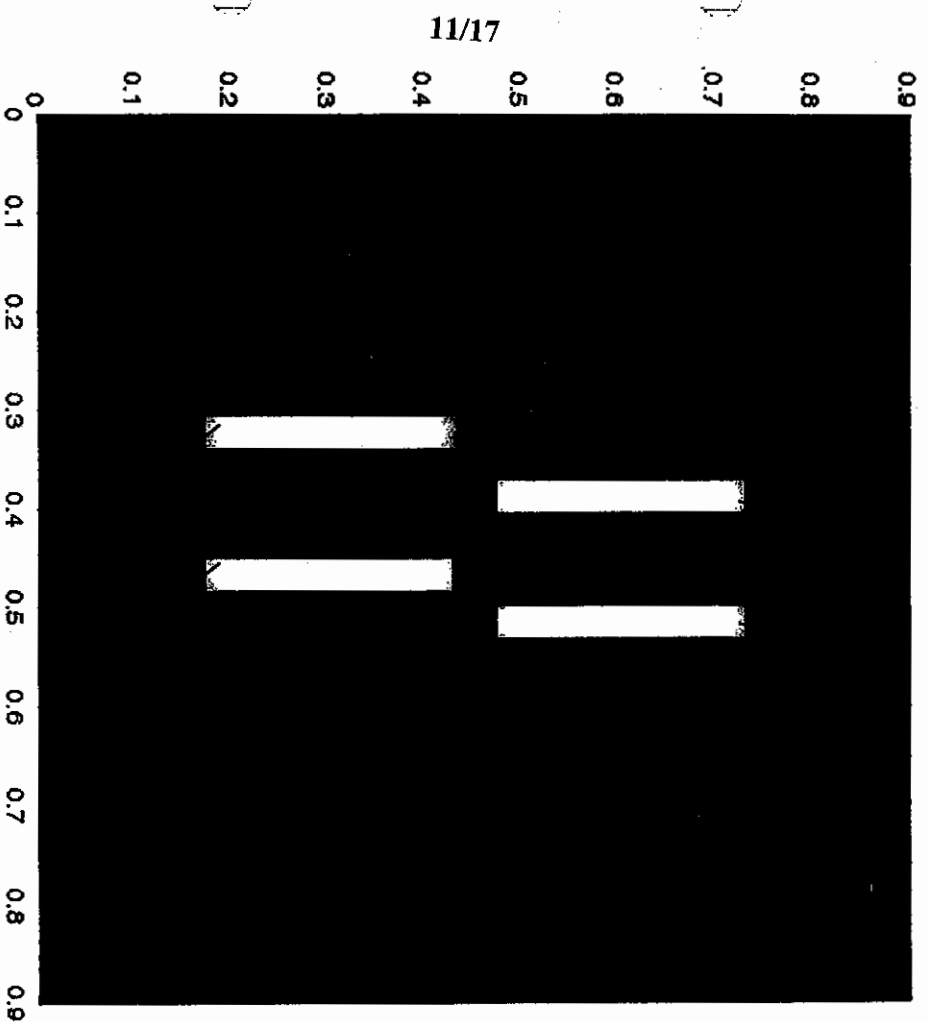
Mask after two iterations



- Red areas are assigned to Exposure #1
- Blue areas are assigned to Exposure #2

FIG. 10

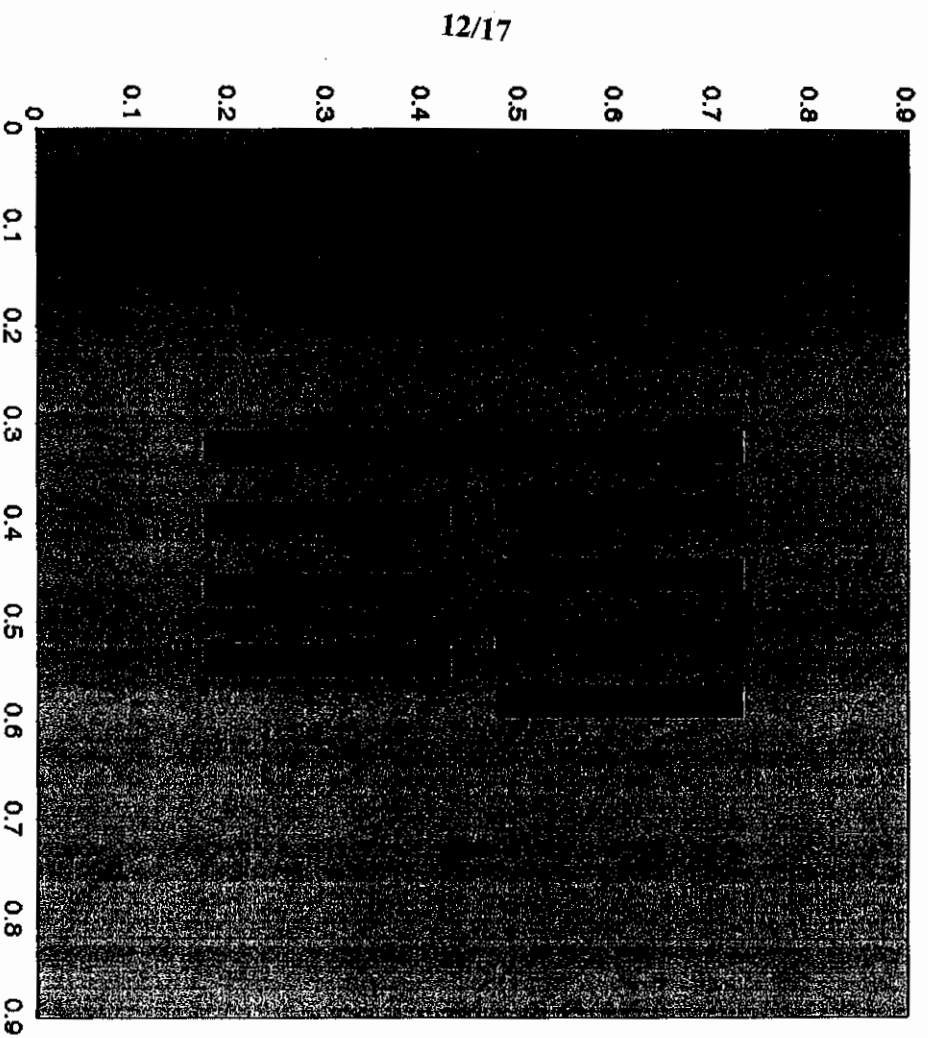
Total Interference Map after all iterations



Interference map
generated with:
NA=1.2
 $\lambda=193\text{nm}$
Annular illumination
 $\sigma_{\text{in}}=0.77$ $\sigma_{\text{out}}=0.97$

FIG. 11

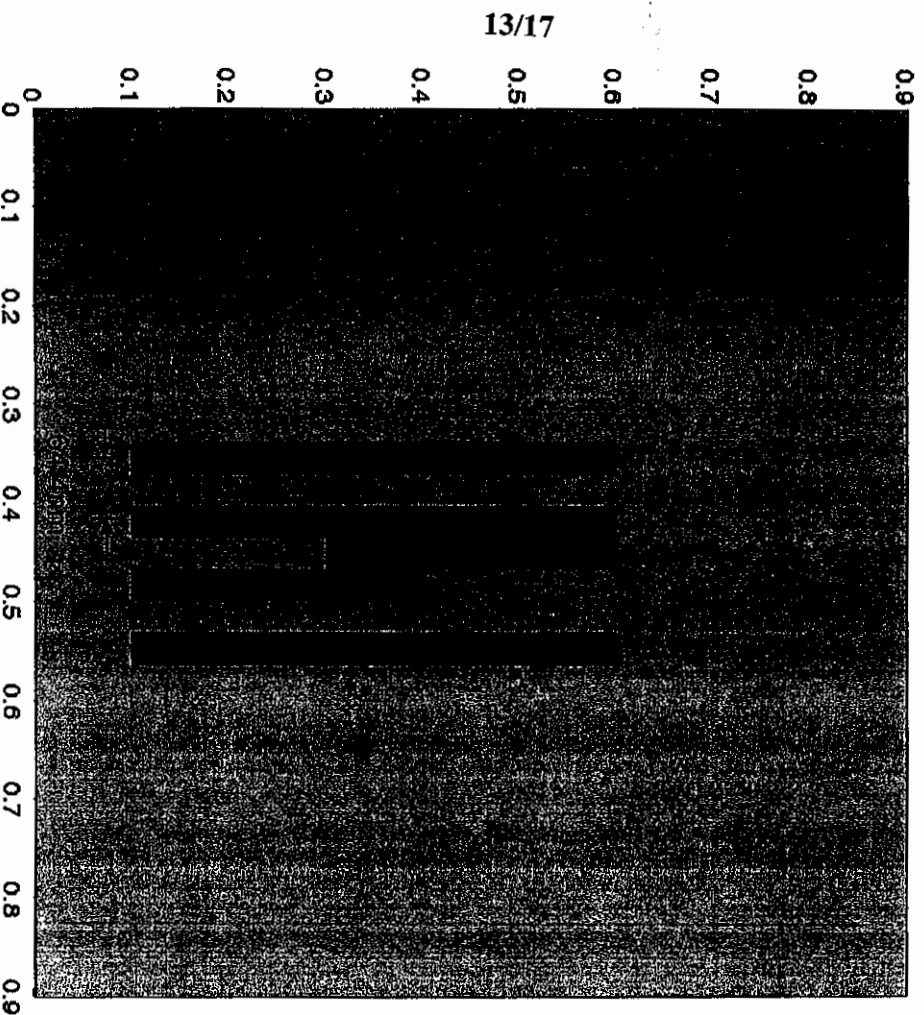
Mask after all iterations



- Red areas are assigned to Exposure #1
- Blue areas are assigned to Exposure #2

FIG. 12

Mask pattern to be split



Min. half pitch=32.2nm

$k_1=0.2$

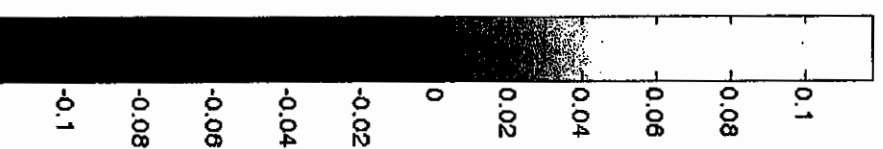
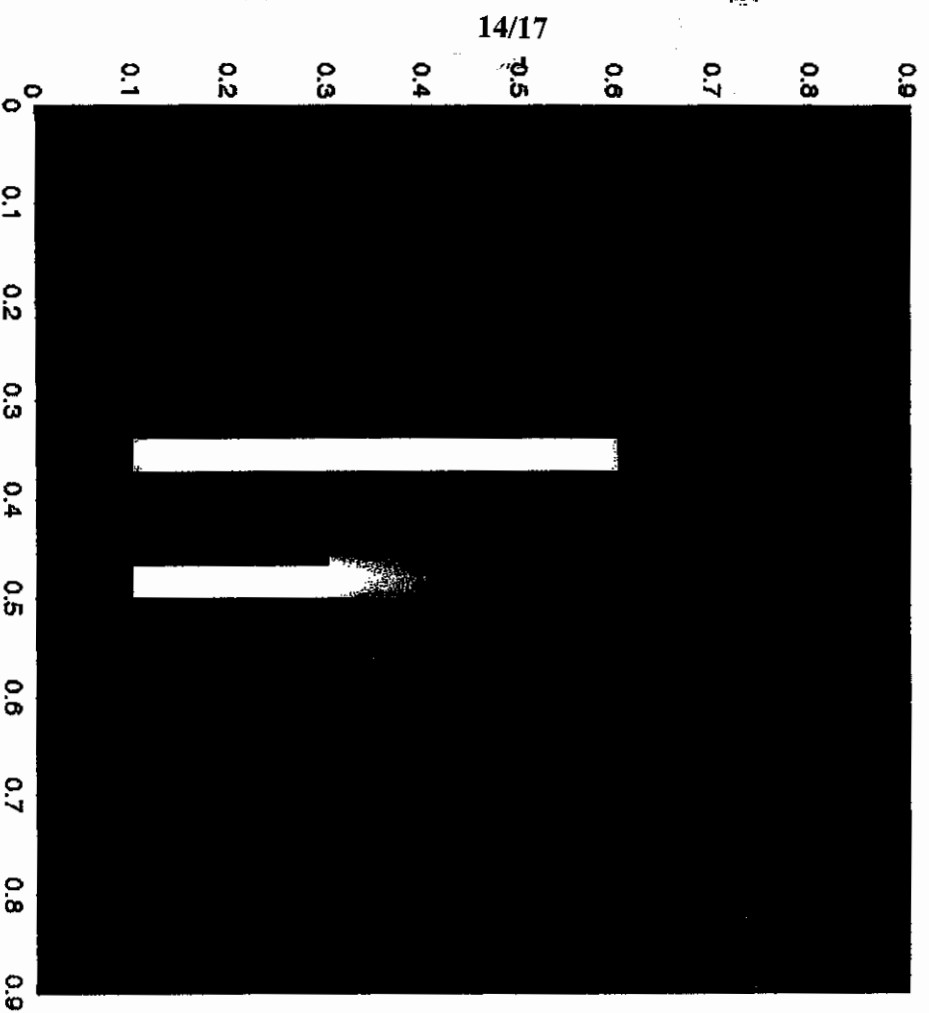
$NA=1.2$

$\lambda=193\text{nm}$

Annular illumination to be used
 $\sigma_{\text{in}}=0.77$ $\sigma_{\text{out}}=0.97$

FIG. 13

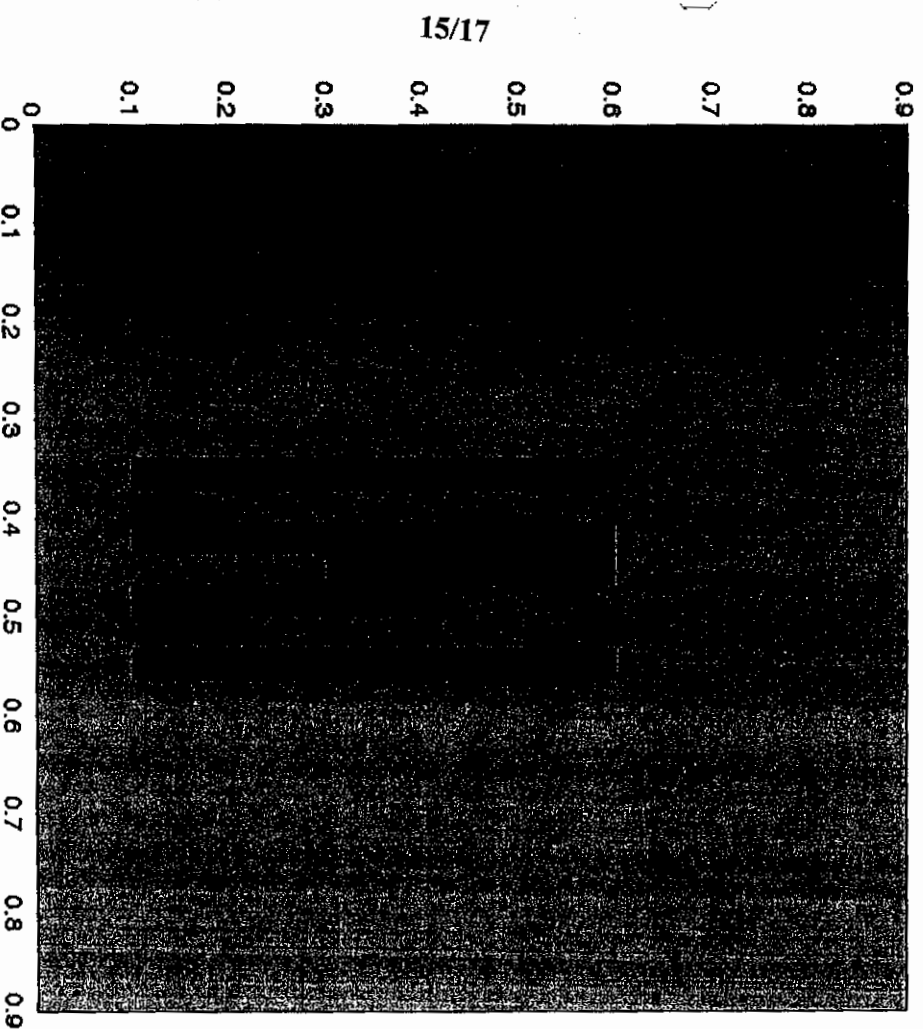
Total Interference Map after all iterations



Interference map
generated with:
 $NA=1.2$
 $\lambda=193\text{nm}$
Annular illumination
 $\sigma_{in}=0.77$ $\sigma_{out}=0.97$

FIG. 14

Mask after all iterations



- Red areas are assigned to Exposure #1
- Blue areas are assigned to Exposure #2

FIG. 15

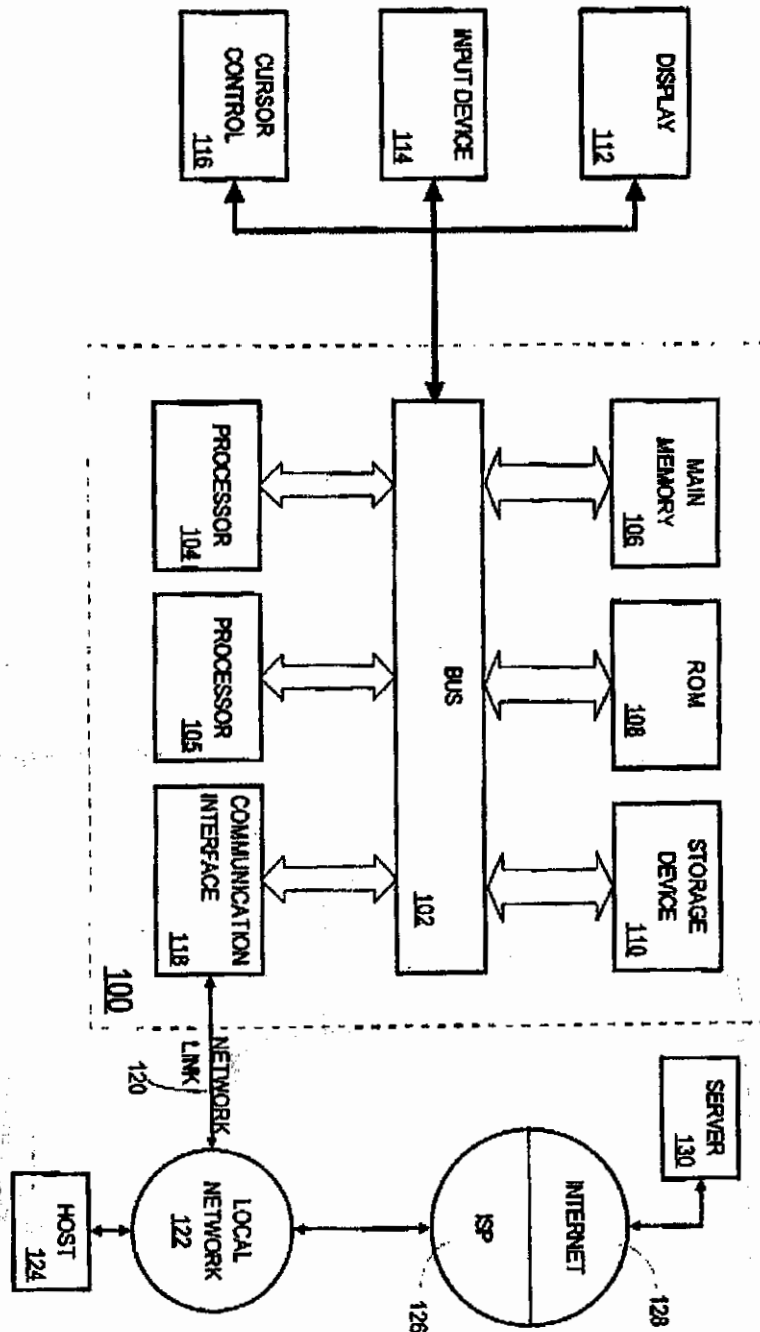


FIG. 16

FIG. 17

