

(19)
(12)

(KR)
(A)

(51) . Int. Cl. 7
H01S 3/10

(11)
(43)

2001 - 0089494
2001 10 06

(21) 10 - 2001 - 7006468
(22) 2001 05 23
2001 05 23
(86) PCT/US1999/07066
(86) 1999 03 31

(87) WO 2000/30801
(87) 2000 06 02

(30) 09/198,160 1998 11 23 (US)

(71)

55133 - 3427 . . . 33427 3

- 37079 - - 10

- 37079 - - 12

(72) , , ,
55133 - 3427 . . 33427
, ,
55133 - 3427 . . 33427
,
- 37079 - - 10
,
33309 . . 320

(74)

(54)

가 , , 1/4
가 ;
가

1

, , , , , 1/4

가 , 가

1 가 , 가 (firing)

20~40 nanasecond 100~150 100~300Hz (peak) (registration)
(vision) () 가) .
,

가 , (fluence;)

, ().

가 () , " (가) " - 가 (top hat - gaussian)" , 가 ,

,
.().

(resolution)

4,733,944 5,414,559

5,610,733

(" 32,pp.8481 - 8489,1977). , et. al, Vol.36, No.

(2 - 5X)

4,923,772 5,298,351

(dimension)

(80%) M2

가

(polyimide)

1

4,940,881

(nozzle)

(drug)

가, - , 가

가 . 가
가 .

$$, \quad \quad \quad \frac{1}{4} \quad \quad \quad . \quad \quad \quad (\quad \quad)$$

1/4

가, 1/4 . 가 3 가

· , 6 1/4 1/4
가 . 4 1
7 1/4

가 X
(photoresist) . 가,
("blind")). (bore)

가

1/4

1/4

가

1 " "

2. " " , ,
(" ")

1

2

3a 3d

4a 4b 1.17 가

5a 5b 0.15 가

6a - 6b

가 , 1/4

7a - 7c

(7b)

(가 ,

) 4 1

1
 n) TM (Upilex)
 (248), XeCl(308)
 0 1000millijoule/cm²

가 20 - 40nanosecond
 50 (2)
 가
 40

1 , (112) (110)
 106) (108)

가 (110) , (112) (116)
 12) (116)

(112) (112) 가
 18) (120)

(1) (112) (112) 가
 1 (116)

(112) (120)
 , (110) 가
 가
 (120) 가

(intra) - (cavity)

가

(120) , (112) (122), (124)
 (122) (stop)

5,378,137,

4A 4B 50 (가)
 (x y) 0.42 1.17
 0.42
 가 , 4C

5A 5B 50 - (가) ; , (X) - Y) 0.154 , 가 . 5C

6A - 6C (6A) E ,
1/4 (6B) (6C) .

(57)

1.

,
;
;

, 가 , , 1/4
가

2.

,
;

가 ;

1/4 ,
1/4
가

3.

1 2 , 1/4

4.

1 2 , 1/4

5.

1 2 , 가

6.

1 2 , ,

7.

1 2 ,

8.

1 2 , , ND/YAG , ND/YLF , CO₂

9.

10.

1 2 ,
가

11.

12.

11

13.

11

14.

11

15.

14

16.

14 , , , 1 가

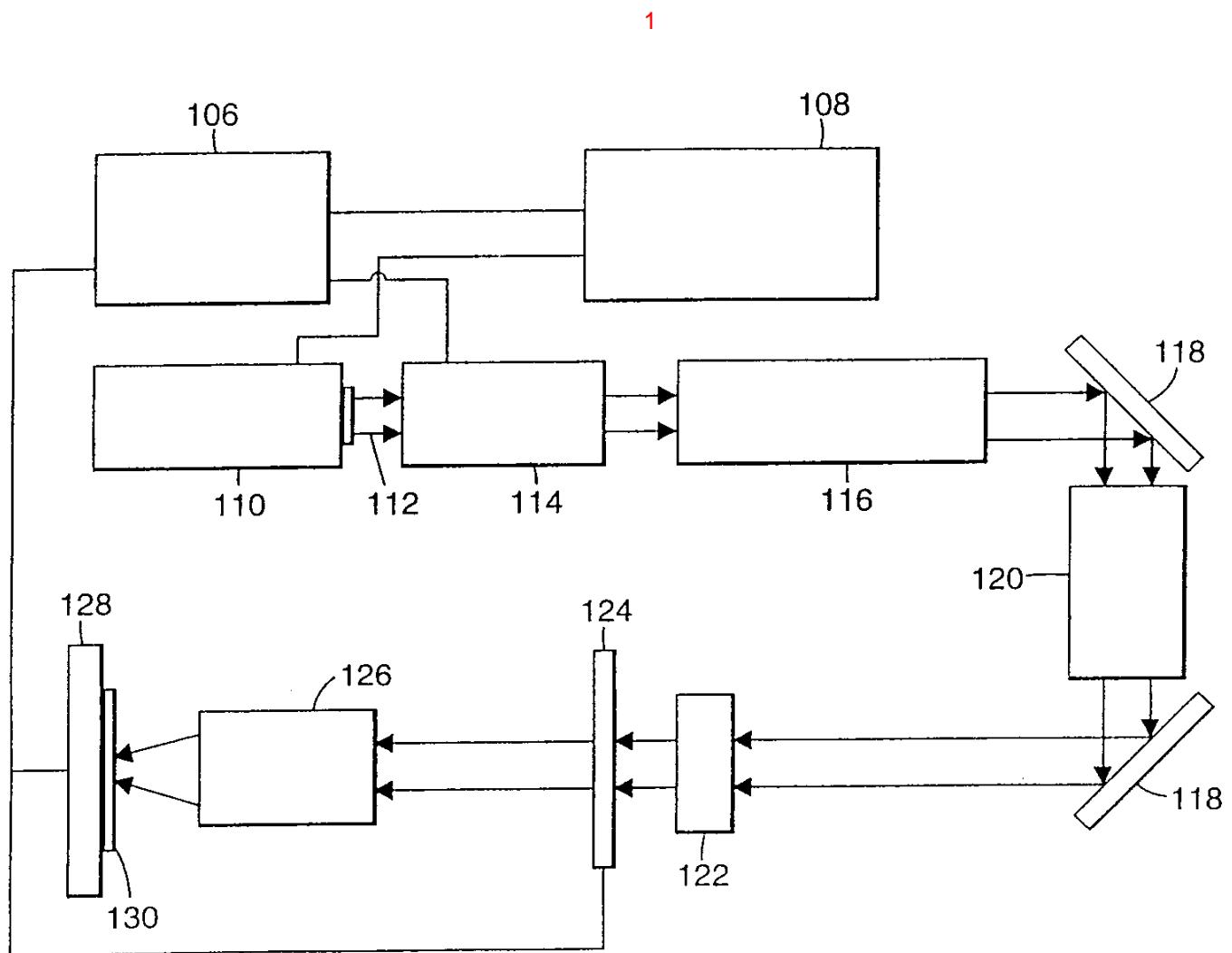
17.

11

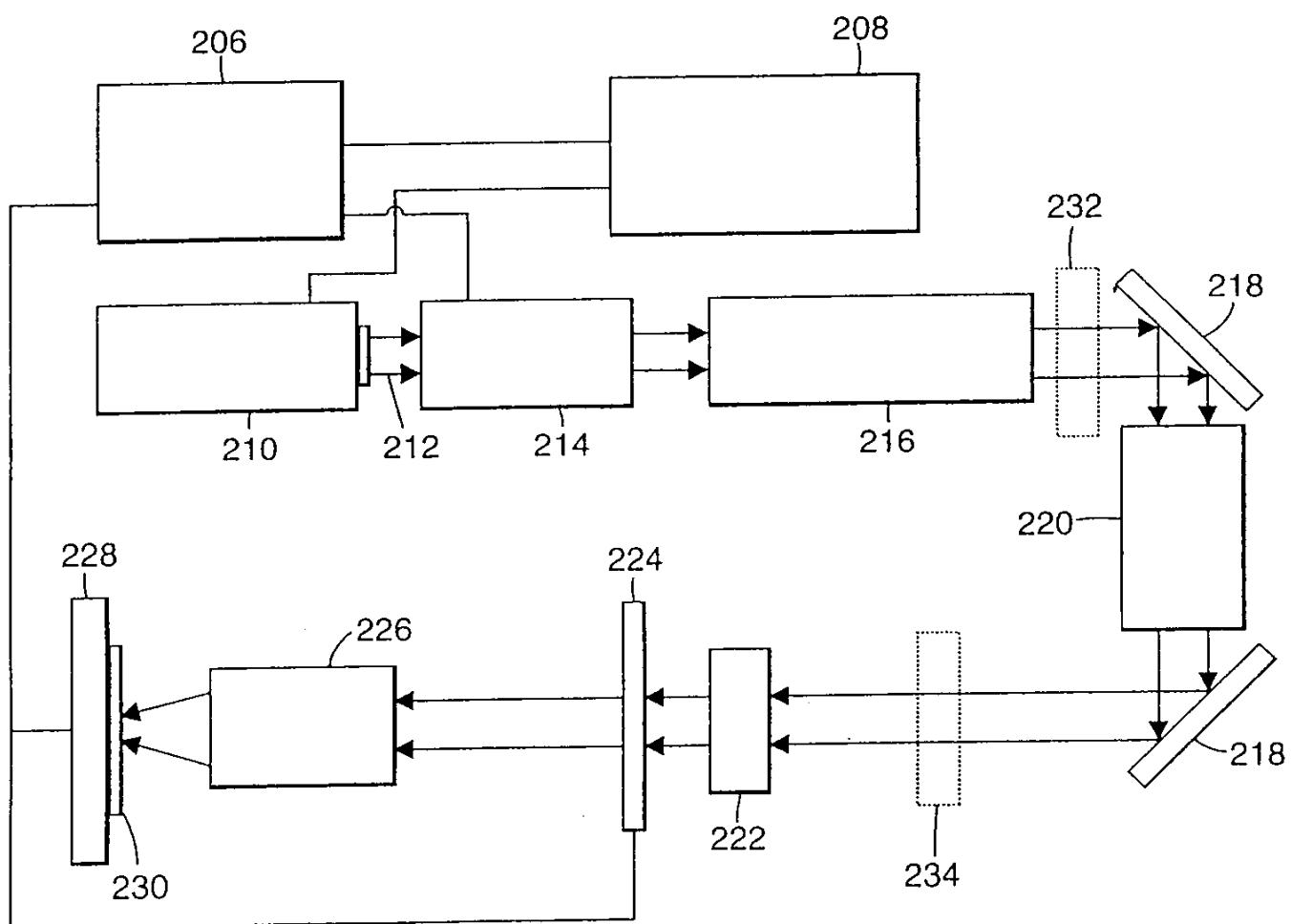
18

17

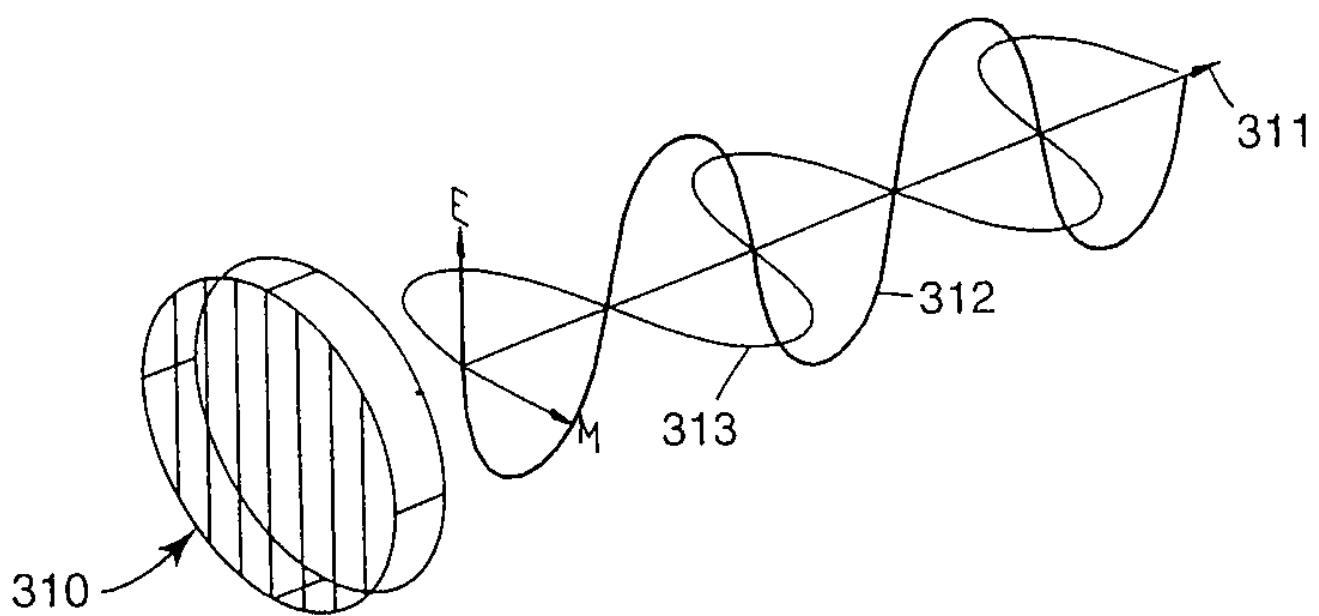
19



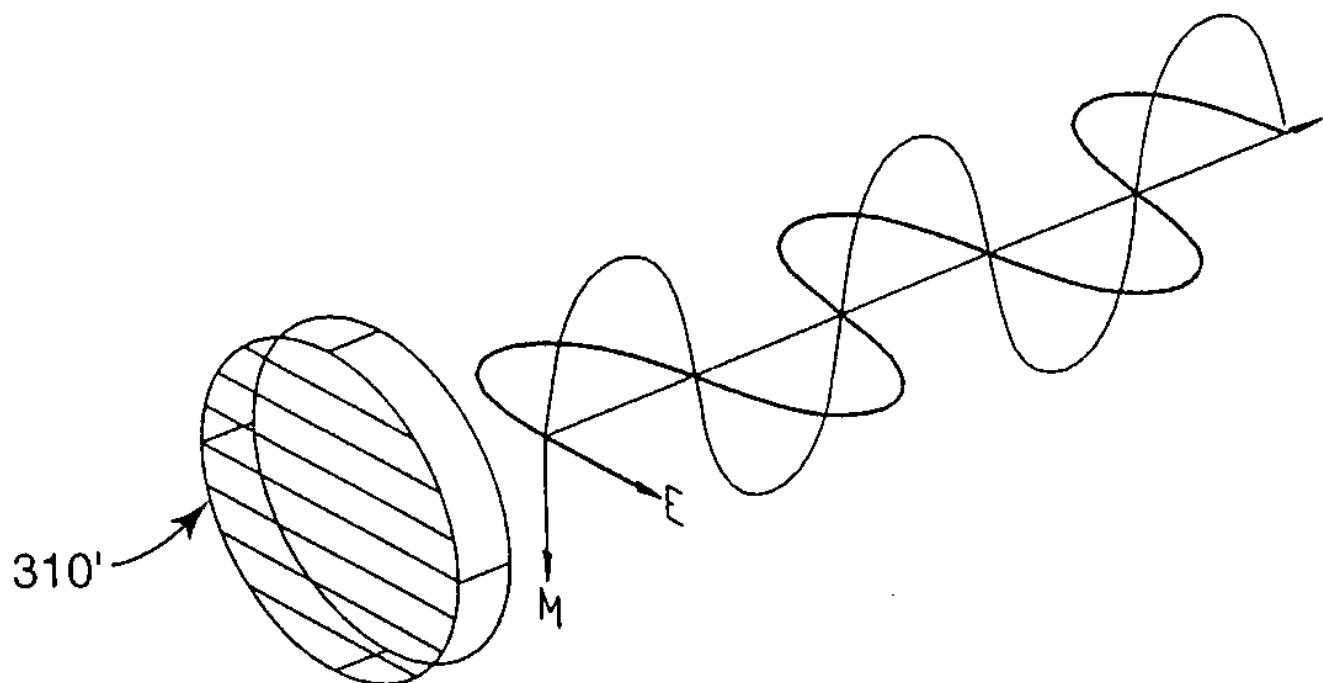
2



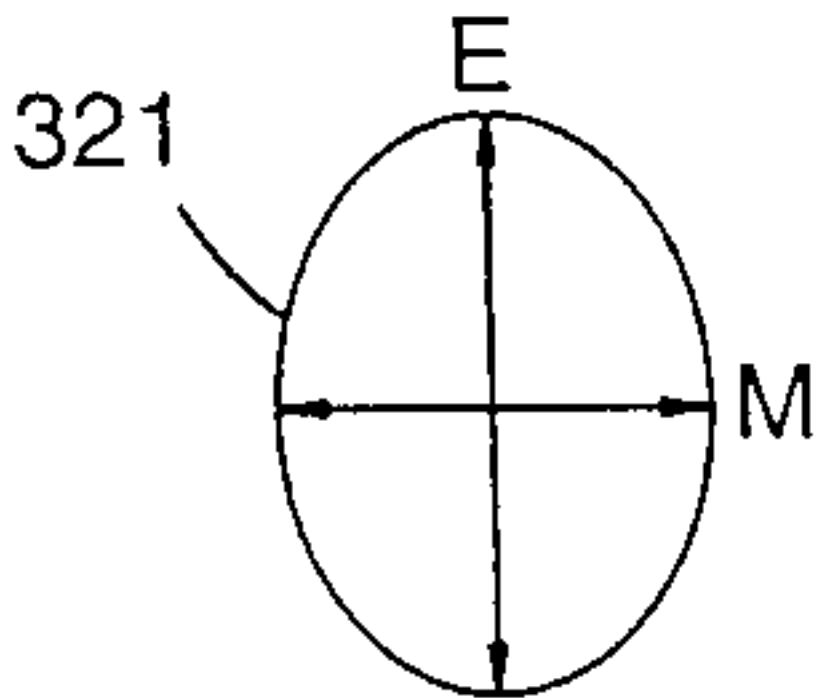
3a



3b

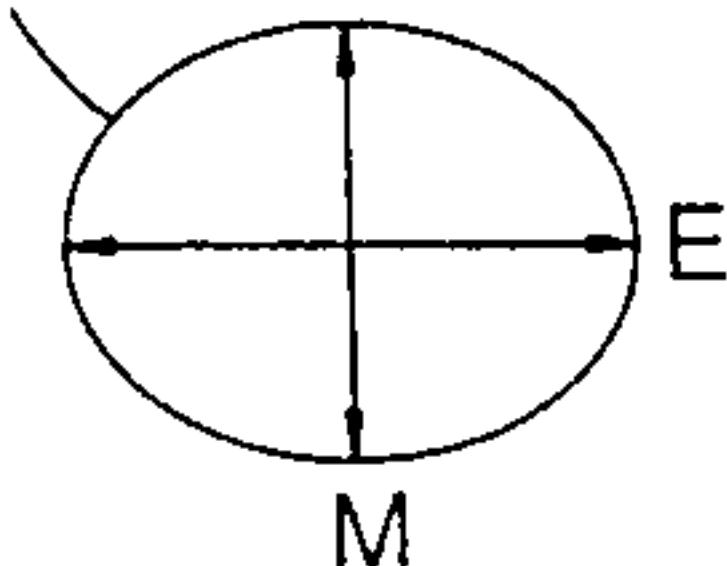


3c

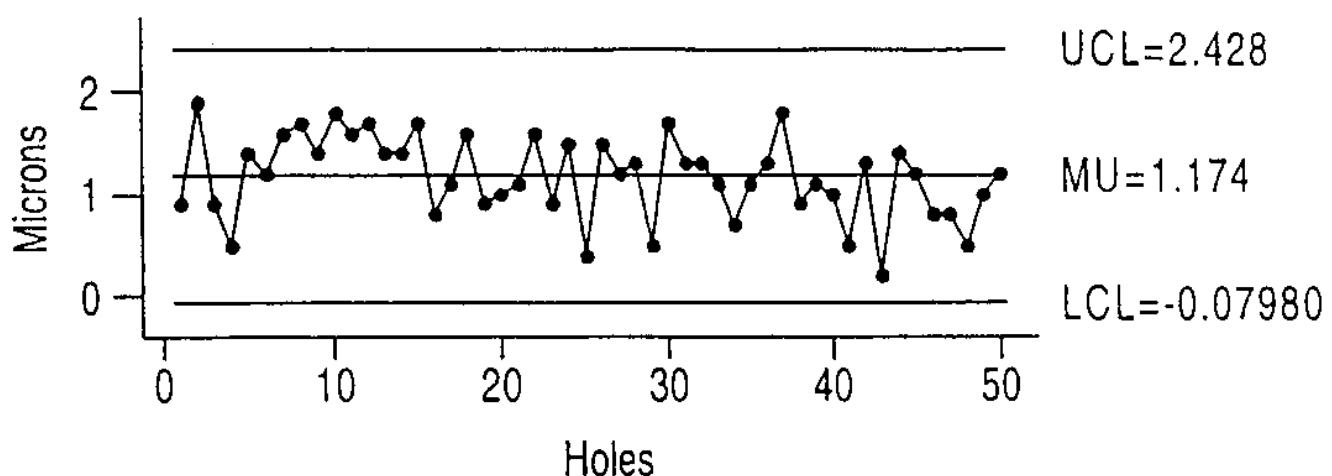


3d

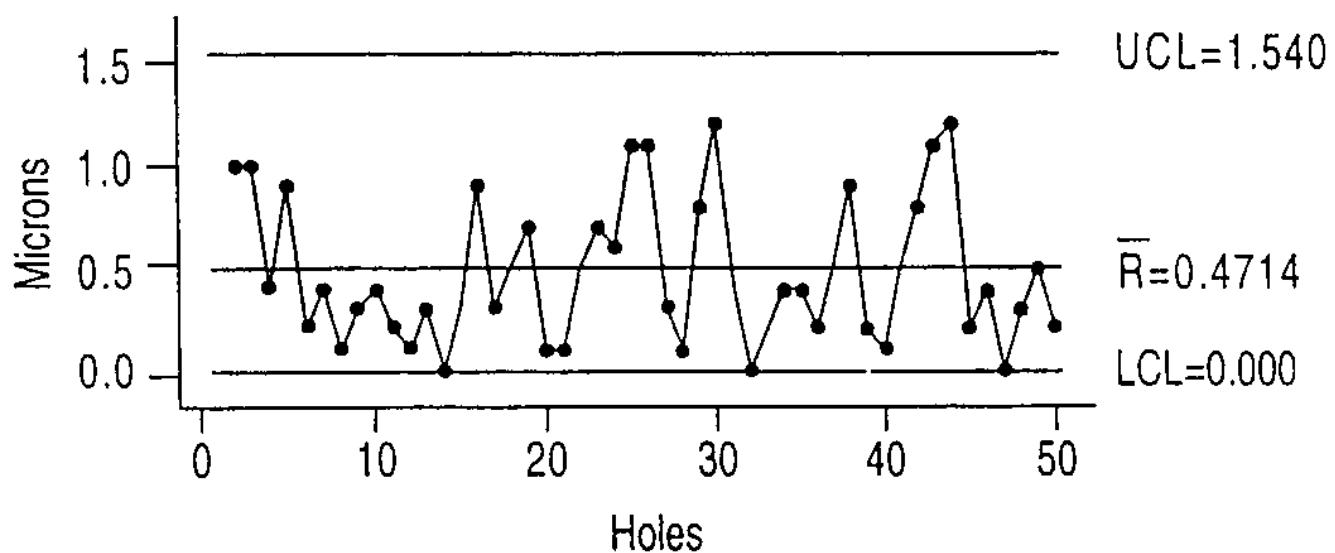
322



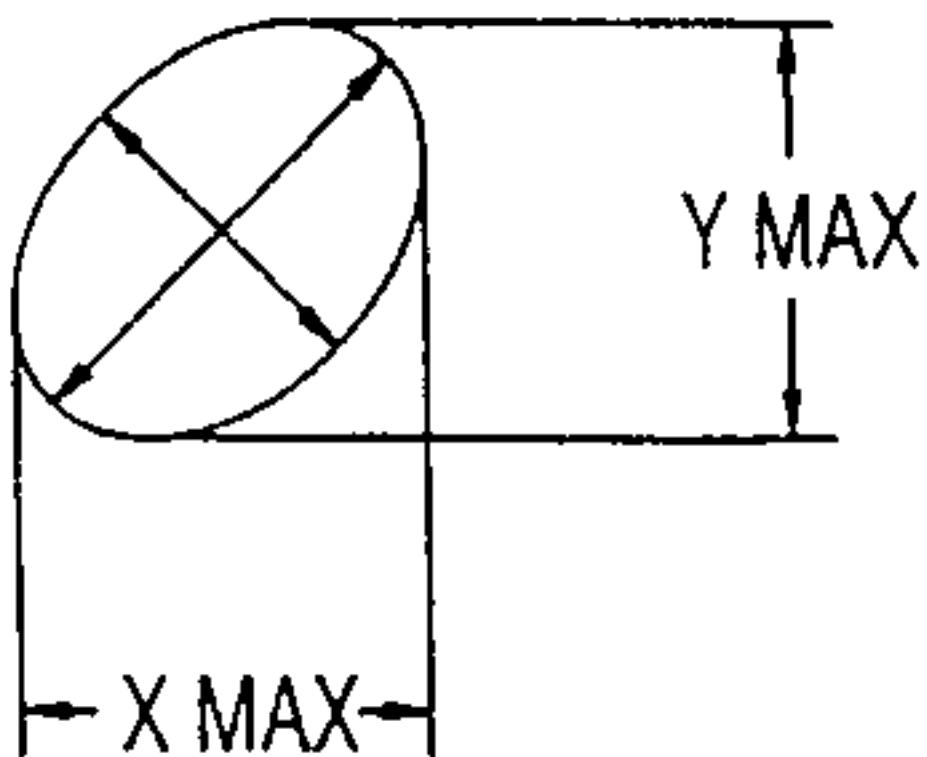
4a



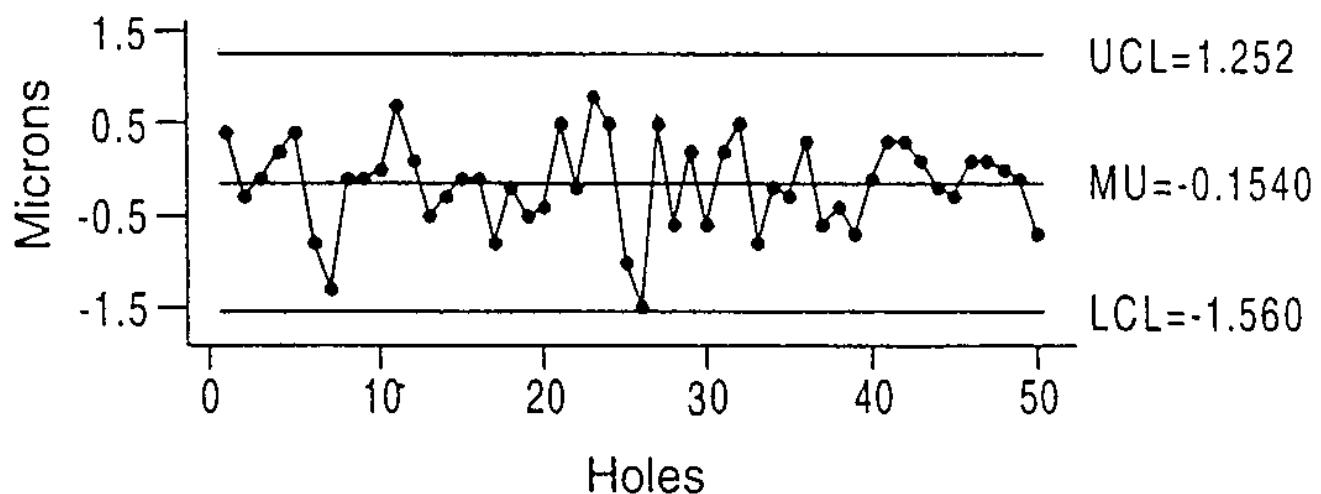
4b



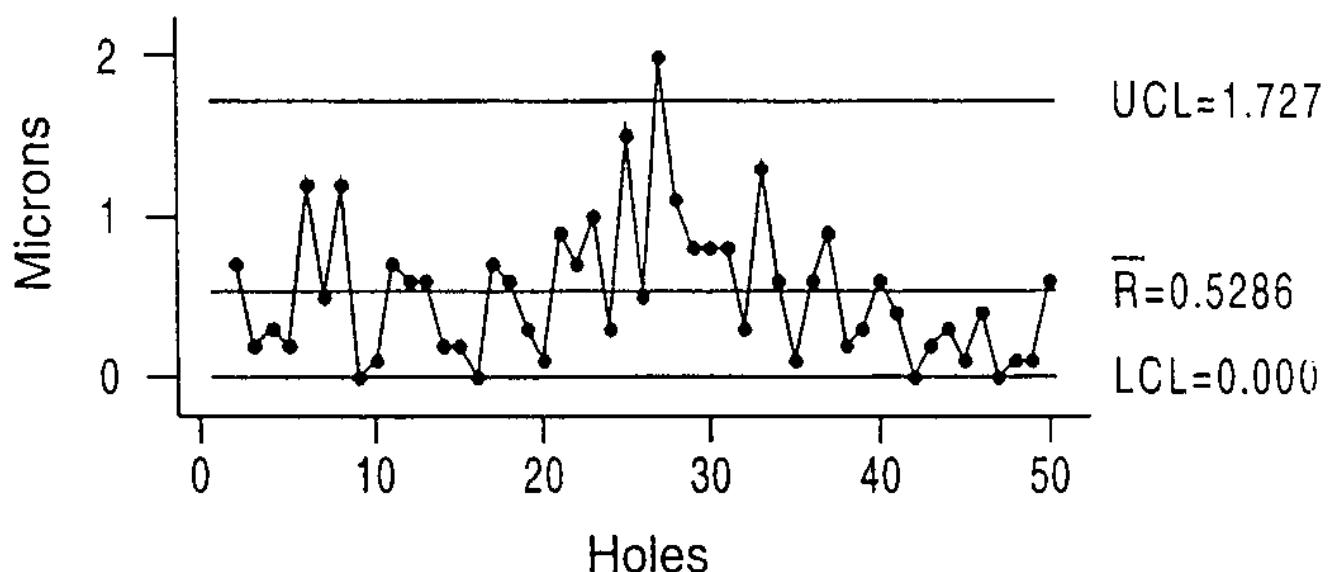
4c



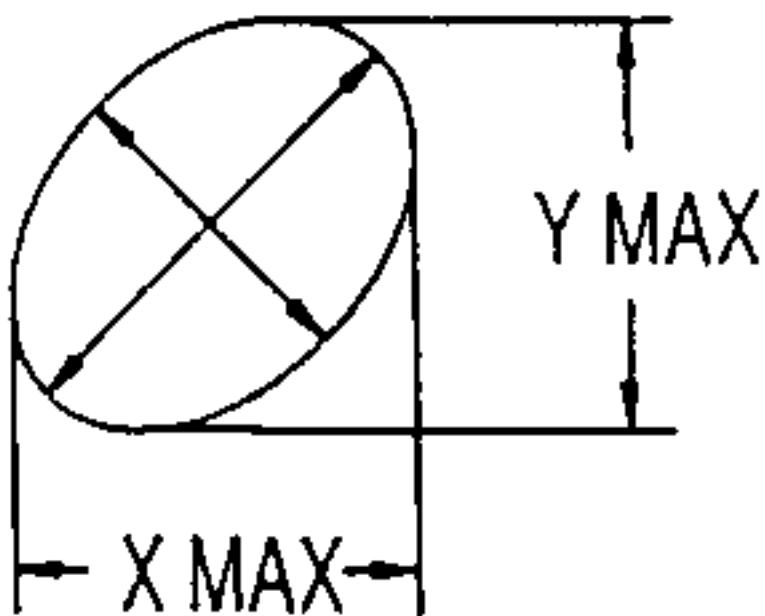
5a



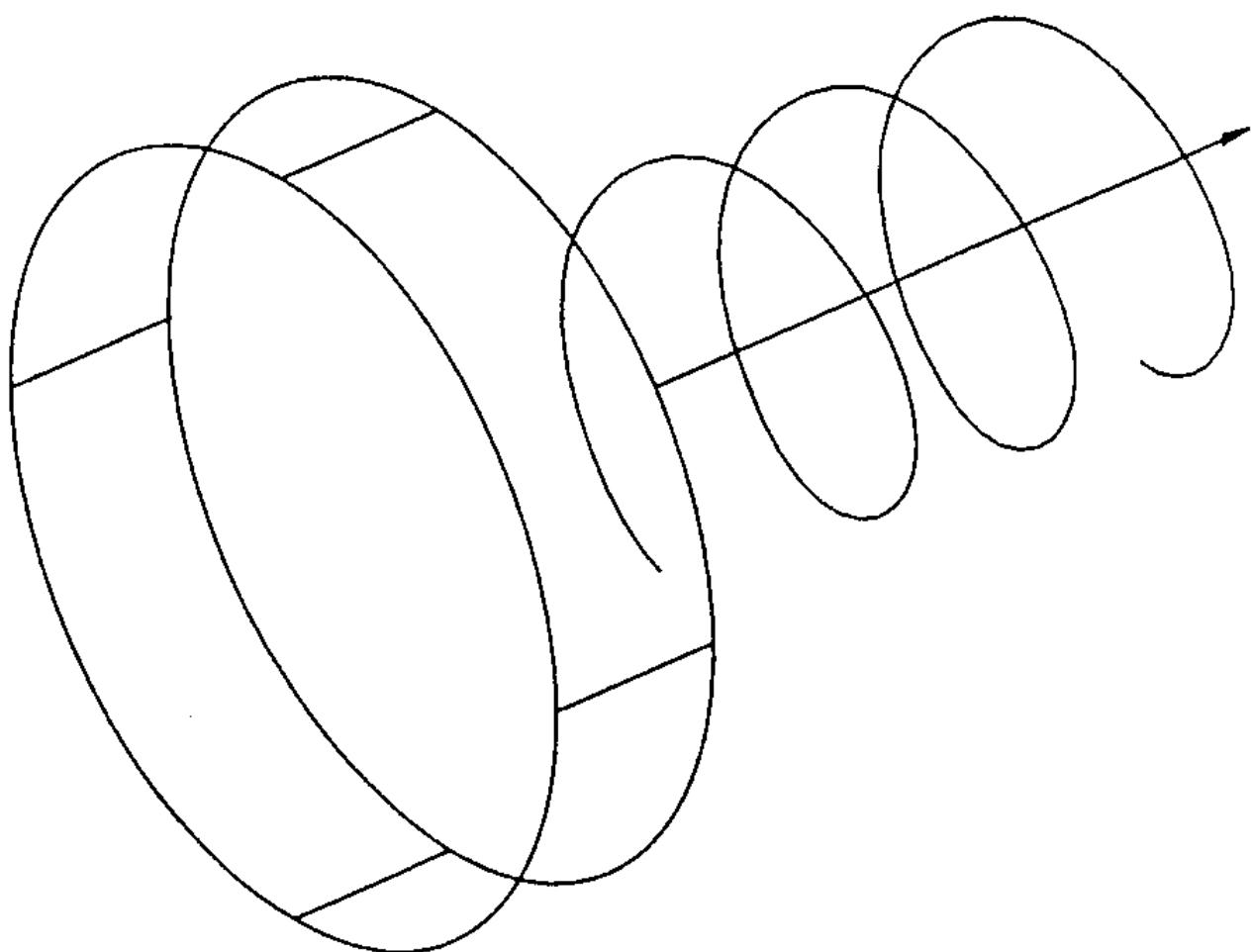
5b



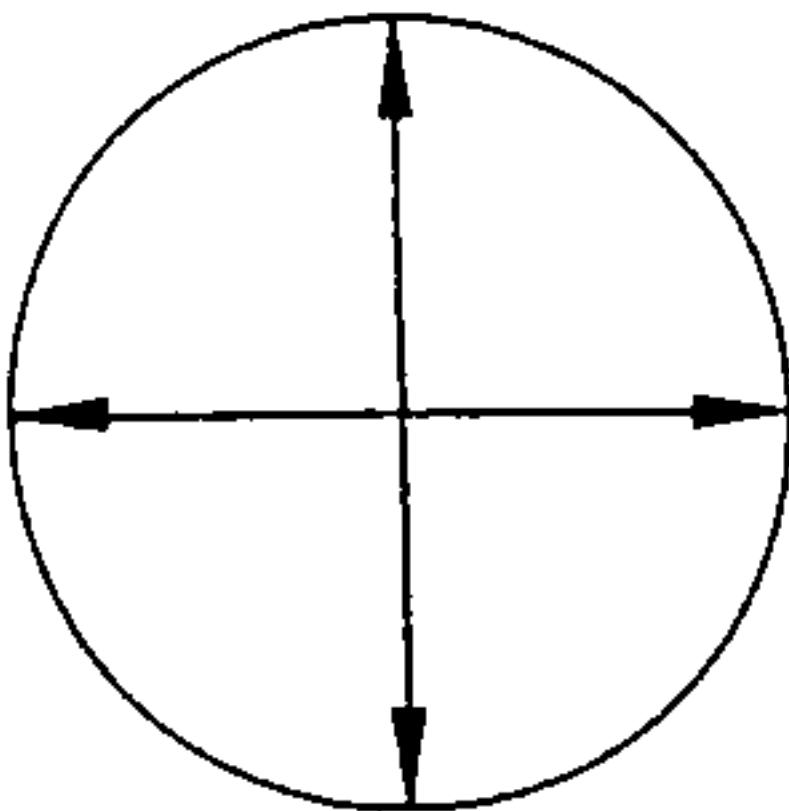
5c



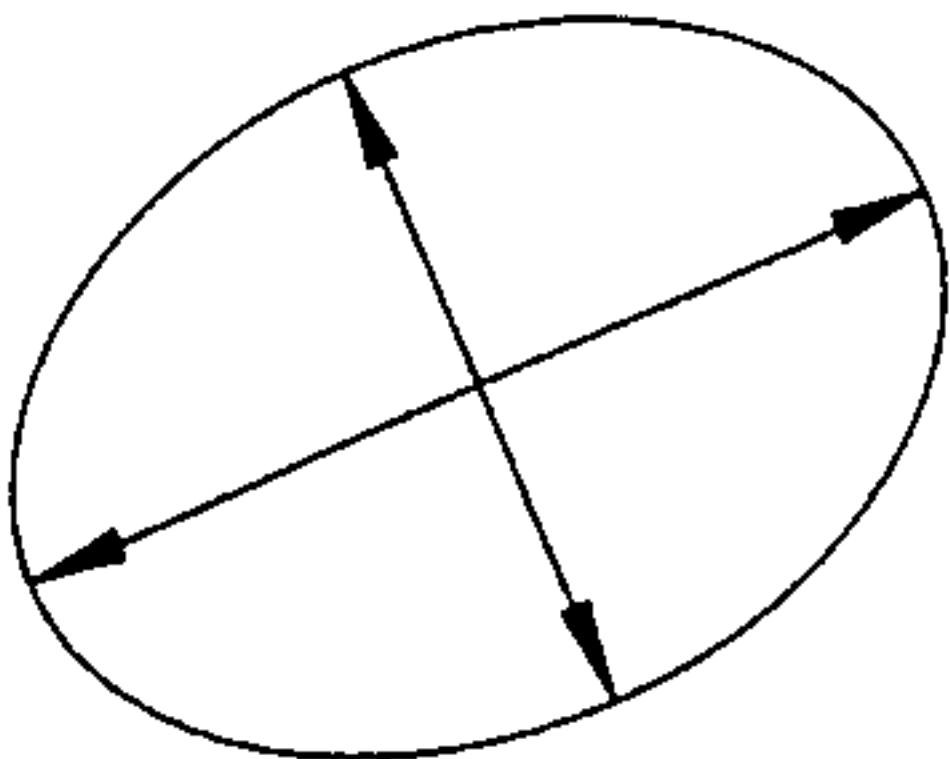
6a



6b



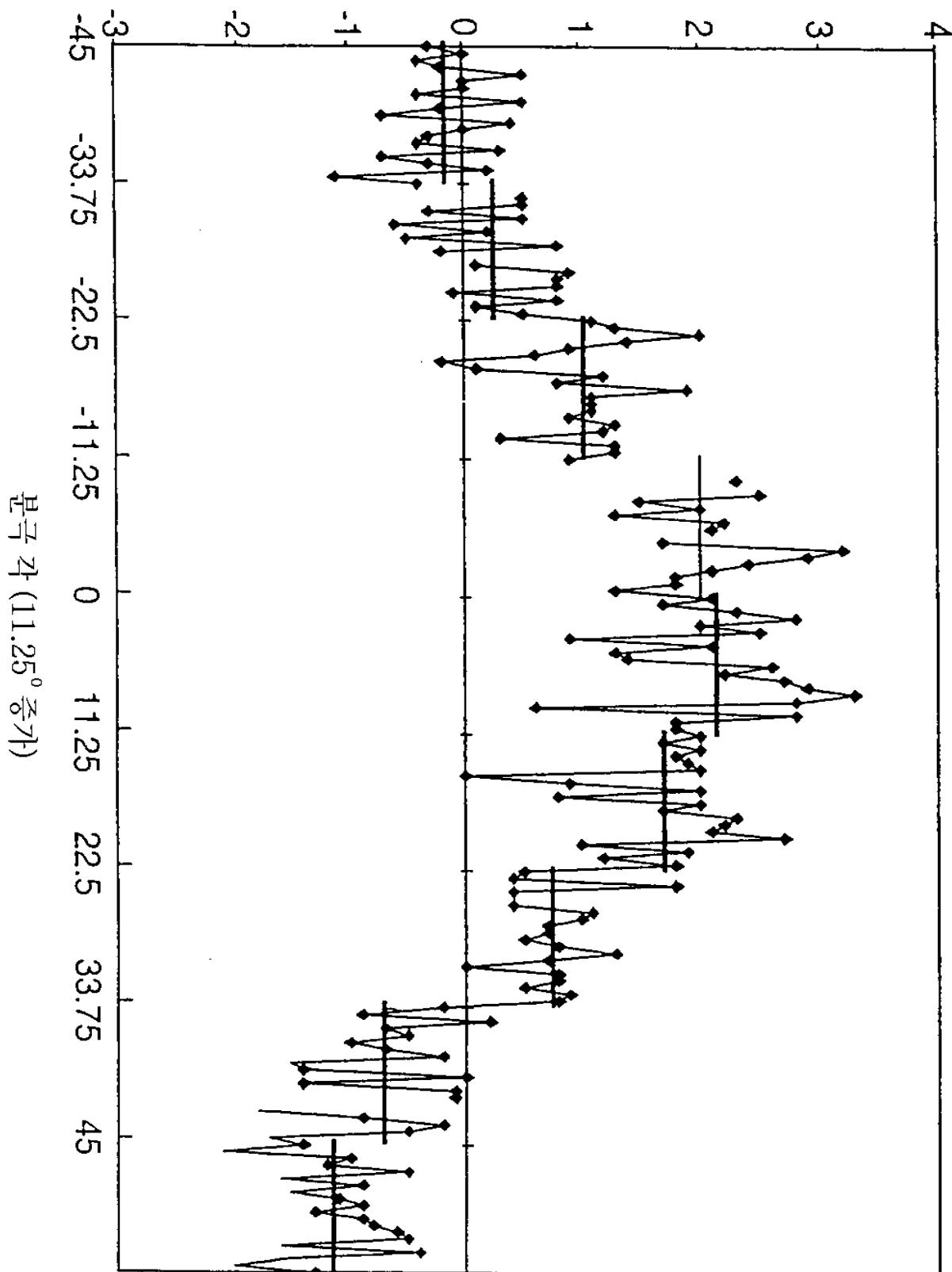
6c

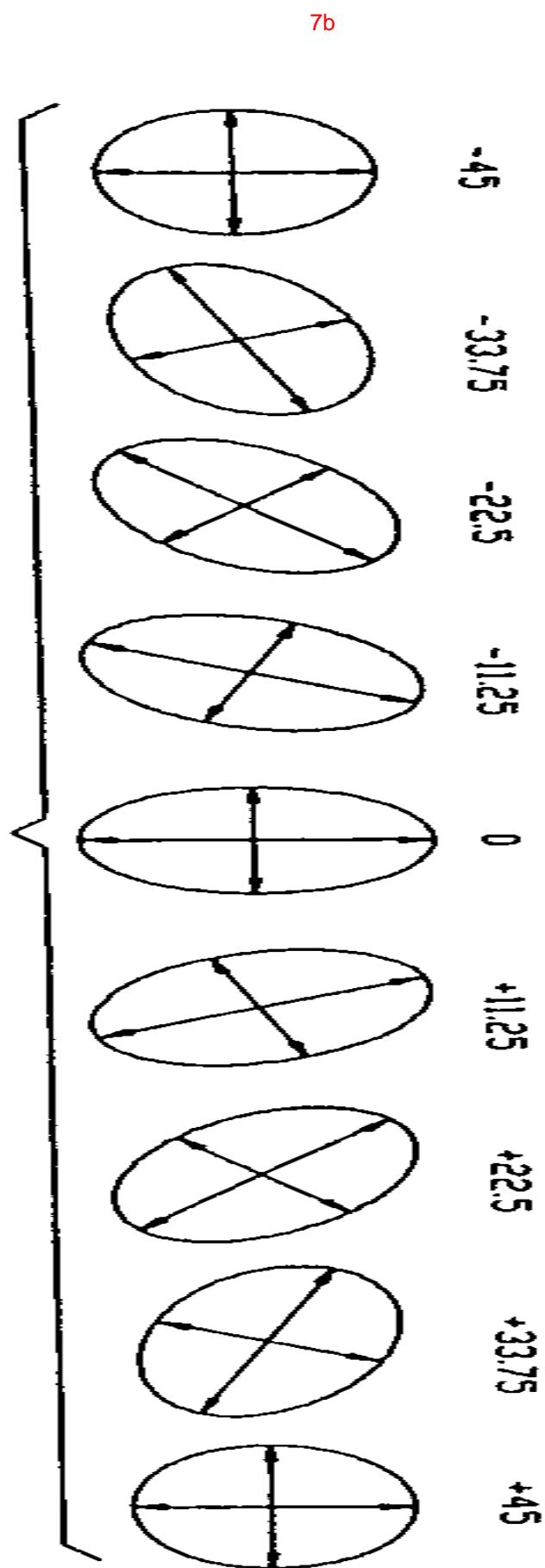


7a

 $\frac{\partial f}{\partial x} = y - x$ (microns)

분극 각 vs 난형
(quarter wave plate rotated)





7c

