

CASE 1  
 NO.1

DX : 40 KM. DT : 1 HOUR

DIR. OF WAVE : S

PERIOD : 20 SEC

| TIME (DAY) | TOTAL ENERGY |
|------------|--------------|
| 0.0        | 0.999999     |
| 0.5        | 0.999978     |
| 1.0        | 0.988420     |
| 1.5        | 0.000000     |
| 2.0        | 0.000000     |
| 2.5        | 0.000000     |
| 3.0        | 0.000000     |

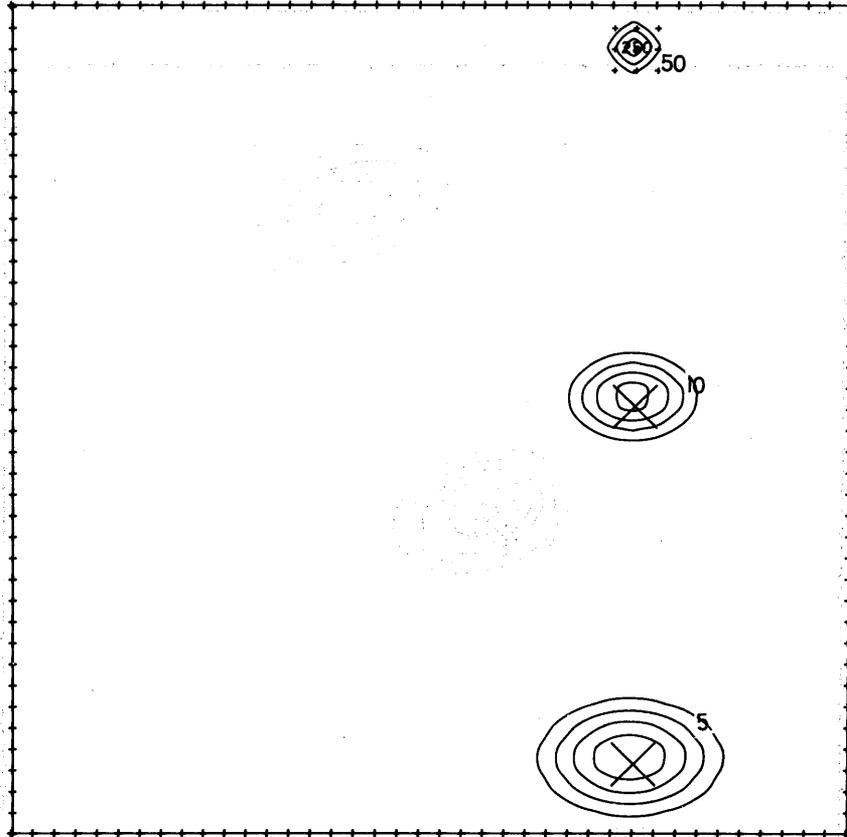


Fig. 1-0-0 contours of  $F(f, \theta)$  vs.  $X$  and  $Y$  for  $f=0.05$  Hz and  $\theta=\pi$ , every 0.5 day. Numerals on the contours show the interval of them in the unit of 1/1000. The energy is initially at the grid points marked +. The mark  $\times$  shows the theoretically expected location of the center of the energy packet.

CASE 1  
NØ.2

DX : 40 KM, DT : 1 HOUR

DIR. ØF WAVE : SSW

PERIØD : 20 SEC

| TIME (DAY) | TØTAL ENERGY |
|------------|--------------|
| 0.0        | 0.999999     |
| 0.5        | 0.999976     |
| 1.0        | 0.999597     |
| 1.5        | 0.000159     |
| 2.0        | 0.000000     |
| 2.5        | 0.000000     |
| 3.0        | 0.000000     |

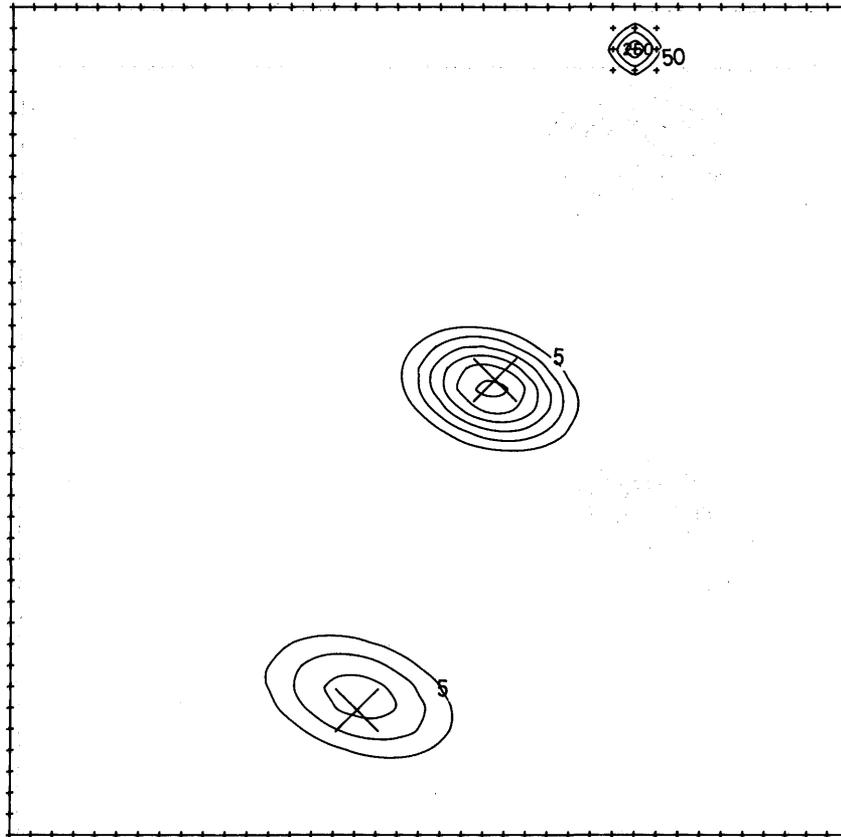


Fig. 2-0-0 The same as Fig. 1-0-0 except for  $\theta=9\pi/8$

CASE 1  
NO. 3

DX : 40 KM. DT : 1 HOUR

DIR. OF WAVE : SW

PERIOD : 20 SEC

| TIME (DAY) | TOTAL ENERGY |
|------------|--------------|
| 0.0        | 0.999999     |
| 0.5        | 0.999972     |
| 1.0        | 0.995960     |
| 1.5        | 0.007618     |
| 2.0        | 0.000000     |
| 2.5        | 0.000000     |
| 3.0        | 0.000000     |

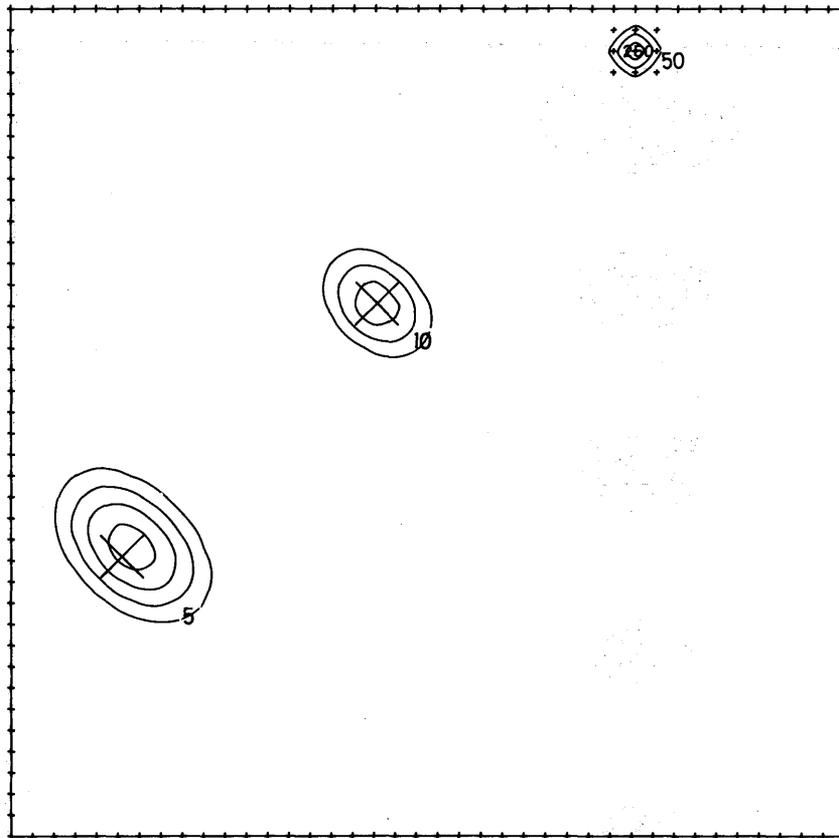


Fig. 3-0-0 The same as Fig. 1-0-0 except for  $\theta=10\pi/8$

CASE 1  
NO. 4

DX : 40 KM, DT : 1 HOUR

DIR. OF WAVE : S

PERIOD : 10 SEC

| TIME (DAY) | TOTAL ENERGY |
|------------|--------------|
| 0.0        | 0.999999     |
| 0.5        | 0.999990     |
| 1.0        | 0.999980     |
| 1.5        | 0.999907     |
| 2.0        | 0.997680     |
| 2.5        | 0.005855     |
| 3.0        | 0.000000     |

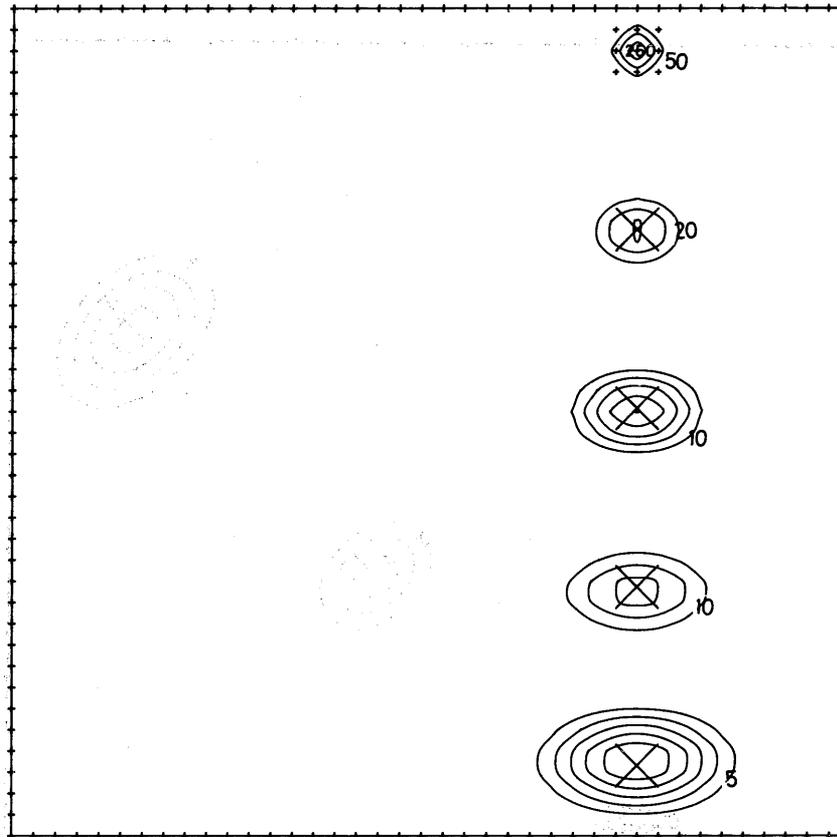


Fig. 4-0-0 The same as Fig. 1-0-0 except for  $f=0.10$  Hz and  $\theta=\pi$

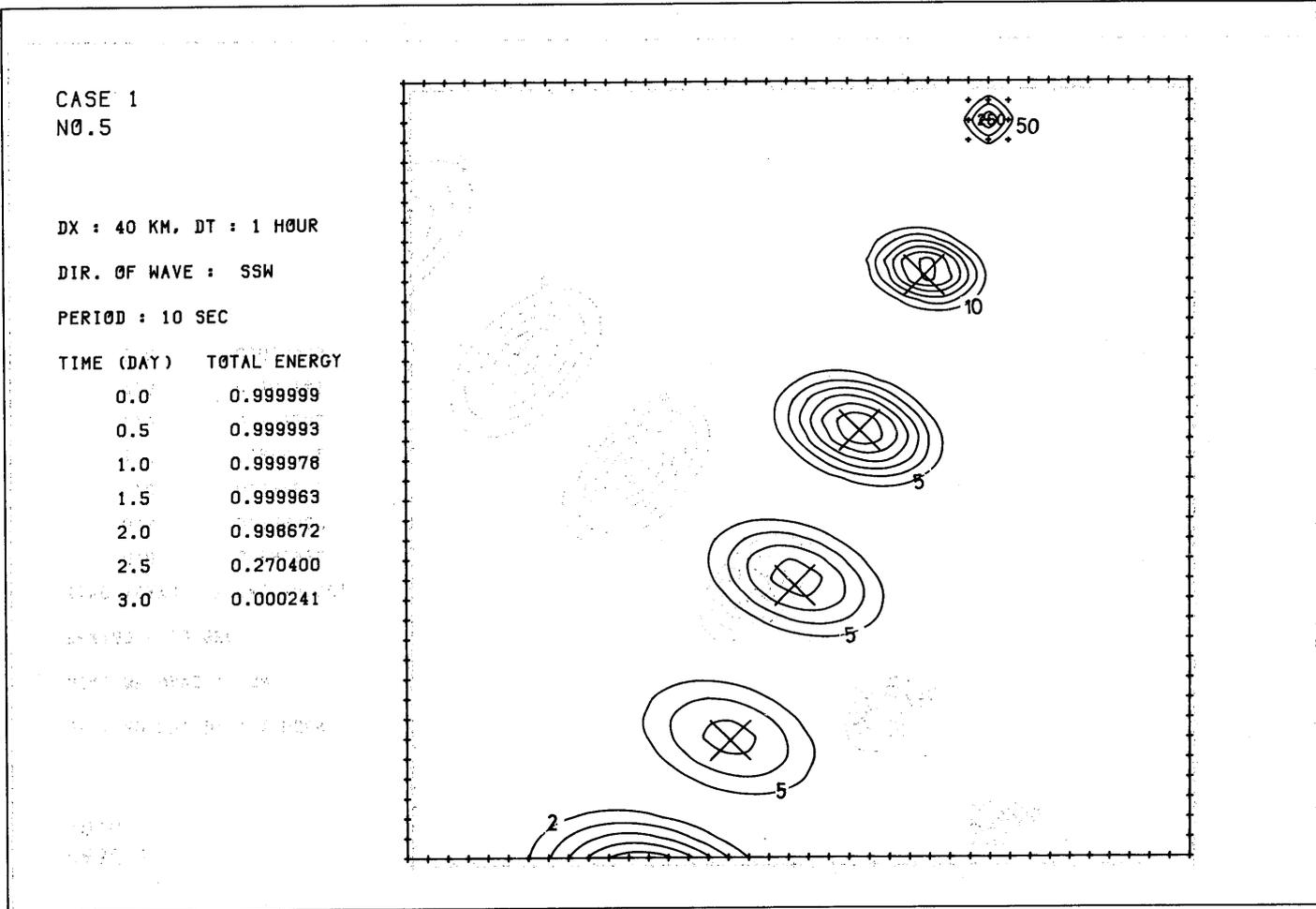


Fig. 5-0-0 The same as Fig. 1-0-0 except for  $f=0.10$  Hz and  $\theta=9\pi/8$

CASE 1  
NO. 6

DX : 40 KM, DT : 1 HOUR

DIR. OF WAVE : SW

PERIOD : 10 SEC

| TIME (DAY) | TOTAL ENERGY |
|------------|--------------|
| 0.0        | 0.999999     |
| 0.5        | 0.999987     |
| 1.0        | 0.999976     |
| 1.5        | 0.999962     |
| 2.0        | 0.997295     |
| 2.5        | 0.469141     |
| 3.0        | 0.005435     |

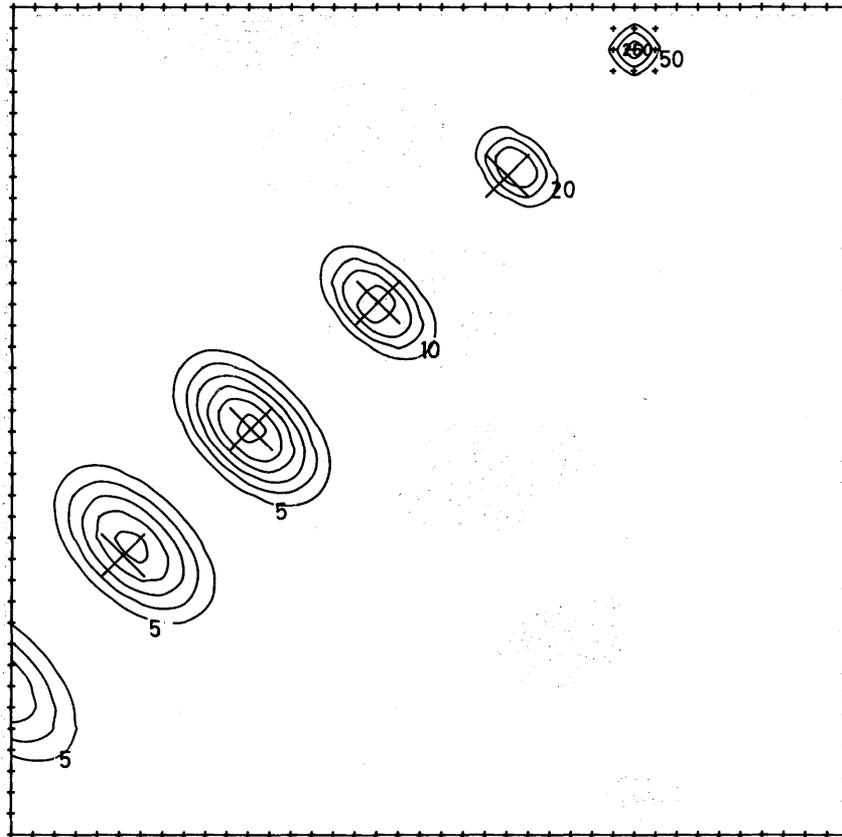


Fig. 6-0-0 The same as Fig. 1-0-0 except for  $f=0.10$  Hz and  $\theta=10\pi/8$

CASE 1  
NØ.7

DX : 40 KM, DT : 1 HOUR

DIR. OF WAVE : S

PERIOD : 5 SEC

| TIME (DAY) | TOTAL ENERGY |
|------------|--------------|
| 0.0        | 0.999999     |
| 0.5        | 0.999995     |
| 1.0        | 0.999991     |
| 1.5        | 0.999988     |
| 2.0        | 0.999985     |
| 2.5        | 0.999977     |
| 3.0        | 0.999954     |

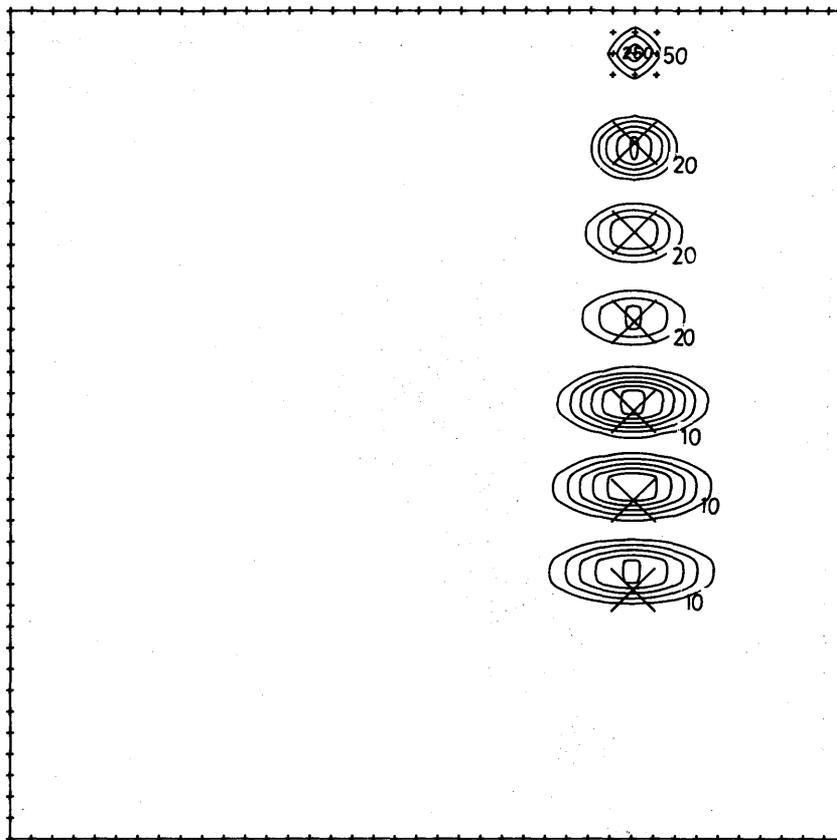


Fig. 7-0-0 The same as Fig. 1-0-0 except for  $f=0.20$  Hz and  $\theta=\pi$

CASE 1  
NO. 8

DX : 40 KM, DT : 1 HOUR

DIR. OF WAVE : SSW

PERIOD : 5 SEC

| TIME (DAY) | TOTAL ENERGY |
|------------|--------------|
| 0.0        | 0.999999     |
| 0.5        | 0.999997     |
| 1.0        | 0.999994     |
| 1.5        | 0.999988     |
| 2.0        | 0.999981     |
| 2.5        | 0.999975     |
| 3.0        | 0.999971     |

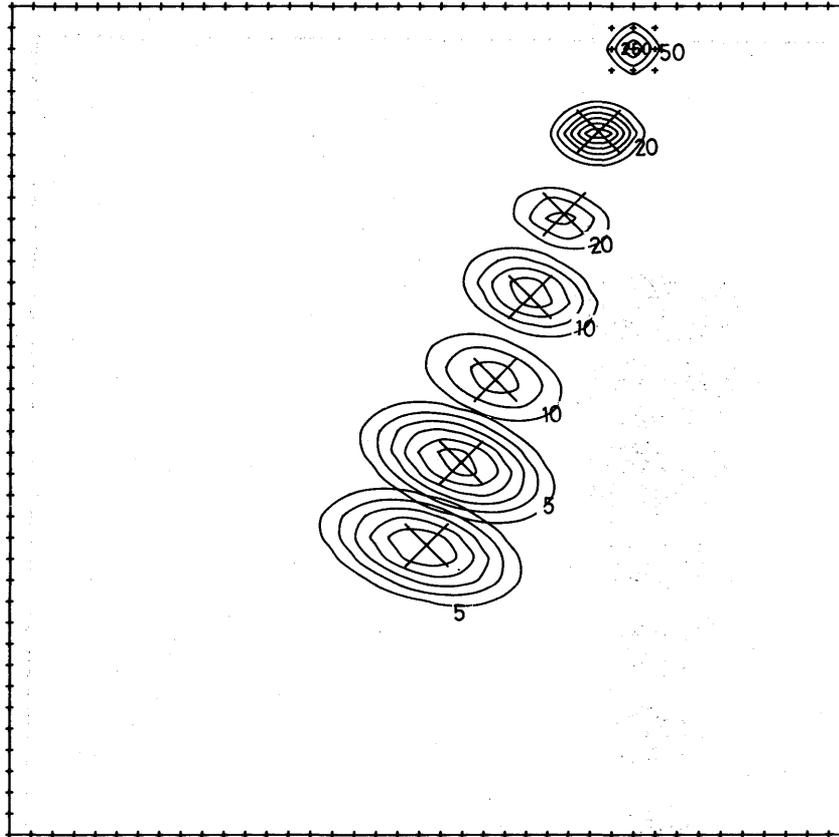


Fig. 8-0-0 The same as Fig. 1-0-0 except for  $f=0.20$  Hz and  $\theta=9\pi/8$

CASE 1  
NO. 9

DX : 40 KM, DT : 1 HOUR

DIR. OF WAVE : SW

PERIOD : 5 SEC

| TIME (DAY) | TOTAL ENERGY |
|------------|--------------|
| 0.0        | 0.999999     |
| 0.5        | 0.999971     |
| 1.0        | 0.999967     |
| 1.5        | 0.999960     |
| 2.0        | 0.999954     |
| 2.5        | 0.999949     |
| 3.0        | 0.999941     |

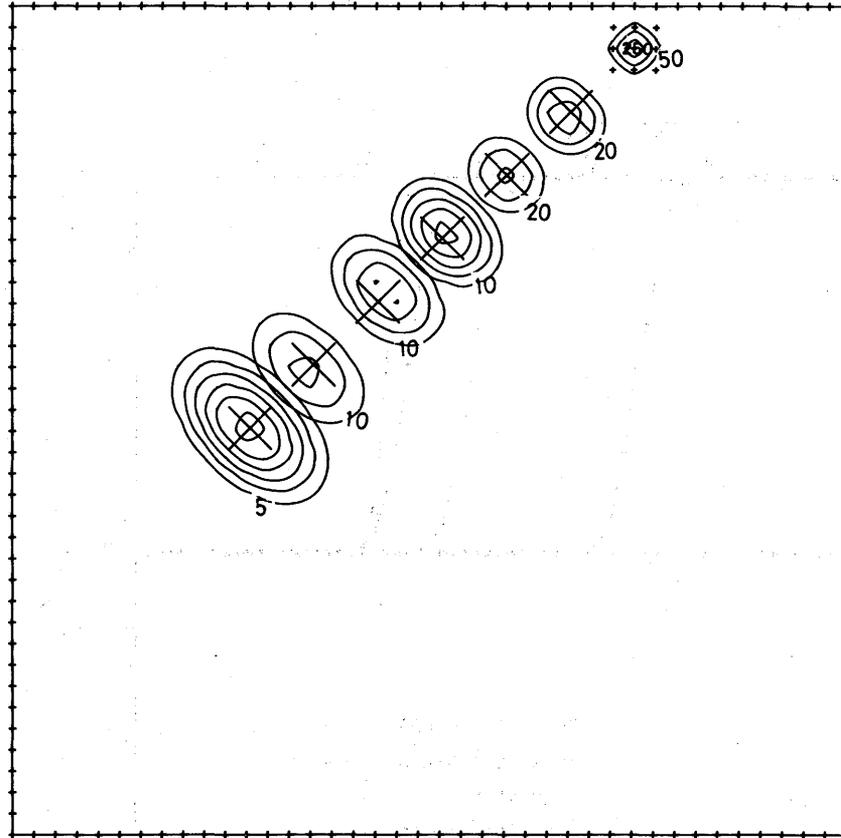


Fig. 9-0-0 The same as Fig. 1-0-0 except for  $f=0.20$  Hz and  $\theta=10\pi/8$

CASE 1

DX : 40 KM, DT : 1.0 HOUR

IMAX=40 : JMAX=40

X EXTENT:0-1560 KM

Y EXTENT:0-1560 KM

E(N) VS. TIME

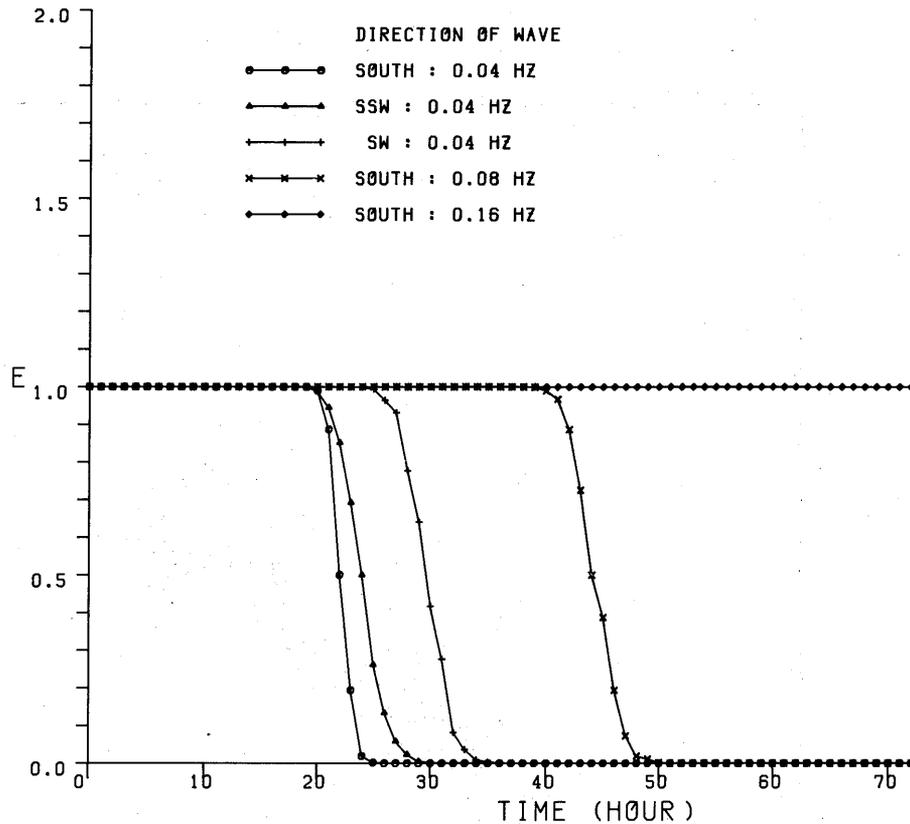
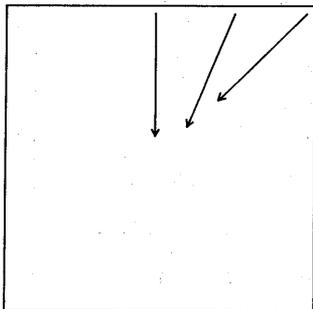


Fig. 10-0-0 E(n) vs. n with f and  $\theta$  as parameters. The energy level falls to zero when the energy travels out of the calculation area.

CASE 1

DX : 40 KM, DT : 1.0 HOUR  
 IMAX=40 : JMAX=40  
 X EXTENT:0-1560 KM  
 Y EXTENT:0-1560 KM

$\bar{I}(N)$  VS. TIME  
 $\bar{J}(N)$  VS. TIME

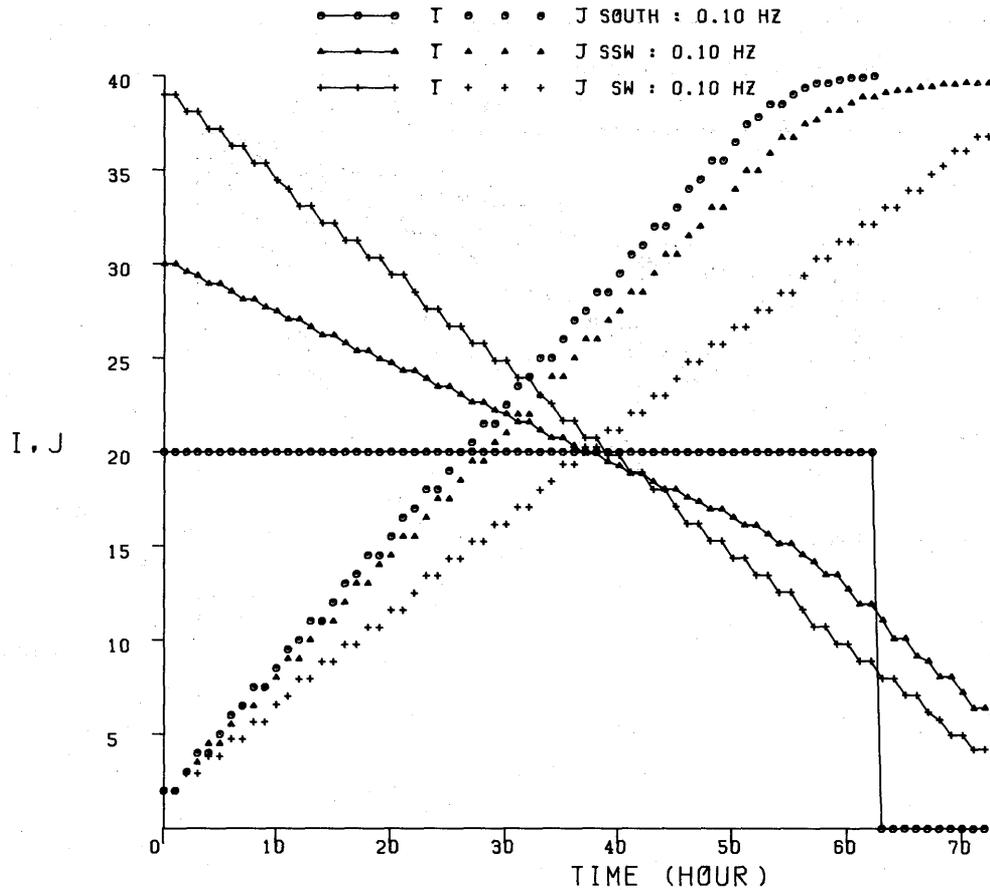
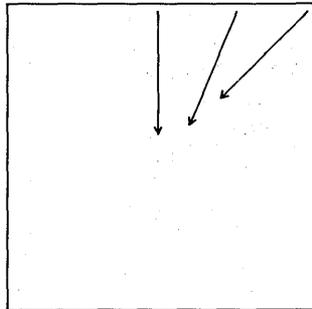


Fig. 11-0-0  $I(n)$  and  $J(n)$  vs.  $n$  with  $\theta$  as parameter. The end effect appears at around  $n=50$ , because the maximum grid number in  $I$  and  $J$  direction is 40.

#00

### CASE 1

IMPROVED PROPAGATION  
AUGUST 1981  
DX : 40 KM, DT : 1.0 HOUR  
IMAX=40 : JMAX=40  
X EXTENT:0-1560 KM  
Y EXTENT:0-1560 KM

S<sup>2</sup> VS. N

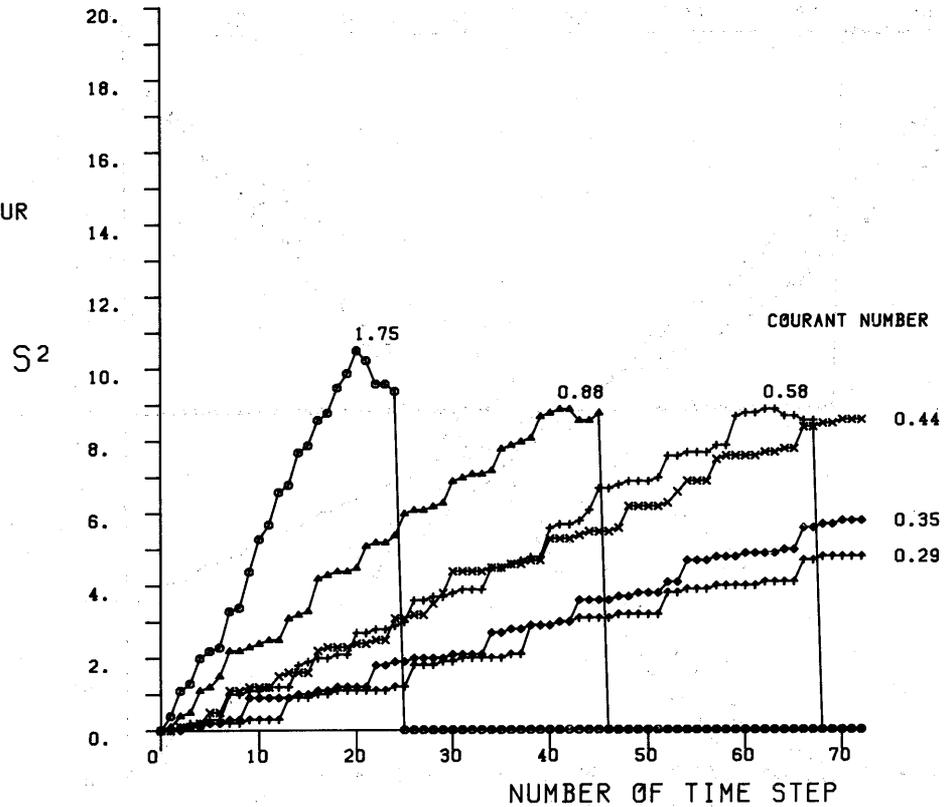
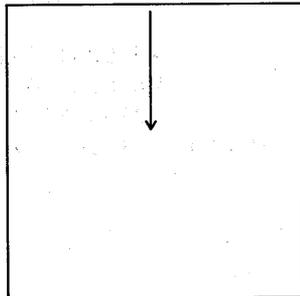


Fig. 12-0-0 S<sup>2</sup> vs. n with C as parameter for  $\theta = \pi$ . The larger the value of C of the wave component, the faster the wave travels out of the calculation area and S<sup>2</sup> is reduced in value.

#00

CASE 1

IMPROVED PROPAGATION  
AUGUST 1981

DX : 40 KM, DT : 1.0 HOUR

IMAX=40 : JMAX=40

X EXTENT:0-1560 KM

Y EXTENT:0-1560 KM

S<sup>2</sup> VS. N

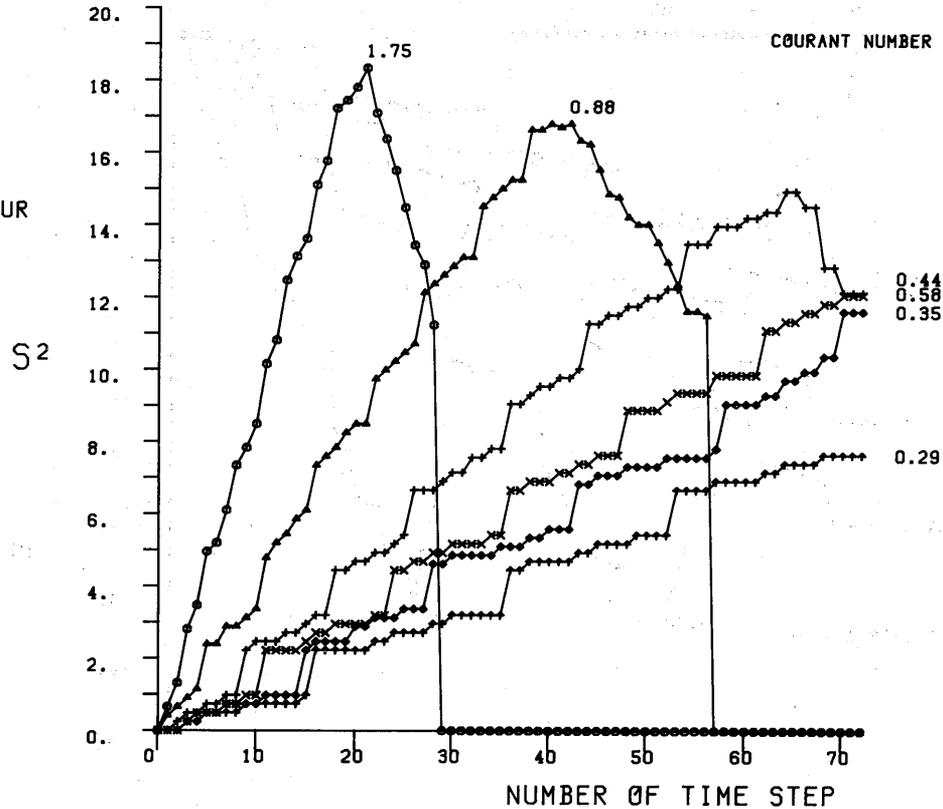
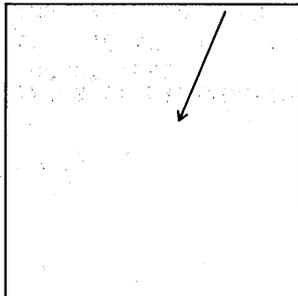


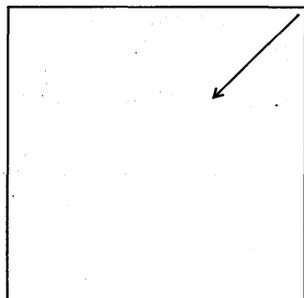
Fig. 13-0-0 The same as Fig. 12-0-0 except for  $\theta=9\pi/8$

#00

### CASE 1

IMPROVED PROPAGATION  
AUGUST 1981  
DX : 40 KM, DT : 1.0 HOUR  
IMAX=40 : JMAX=40  
X EXTENT:0-1560 KM  
Y EXTENT:0-1560 KM

S<sup>2</sup> VS. N



S<sup>2</sup>

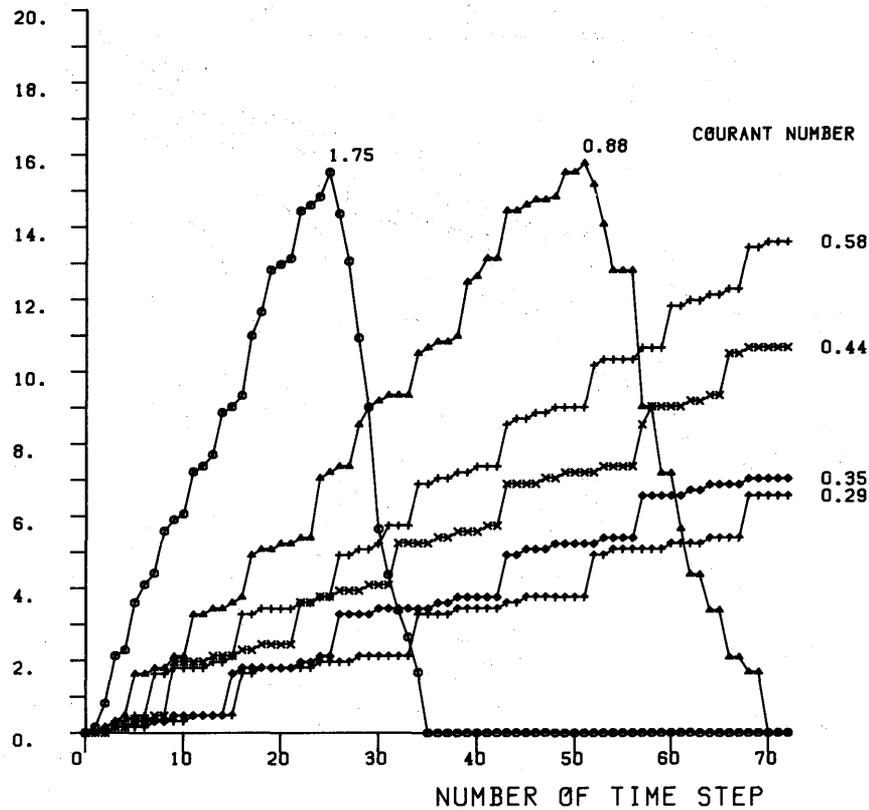


Fig. 14-0-0 The same as Fig. 12-0-0 except for  $\theta=10\pi/8$