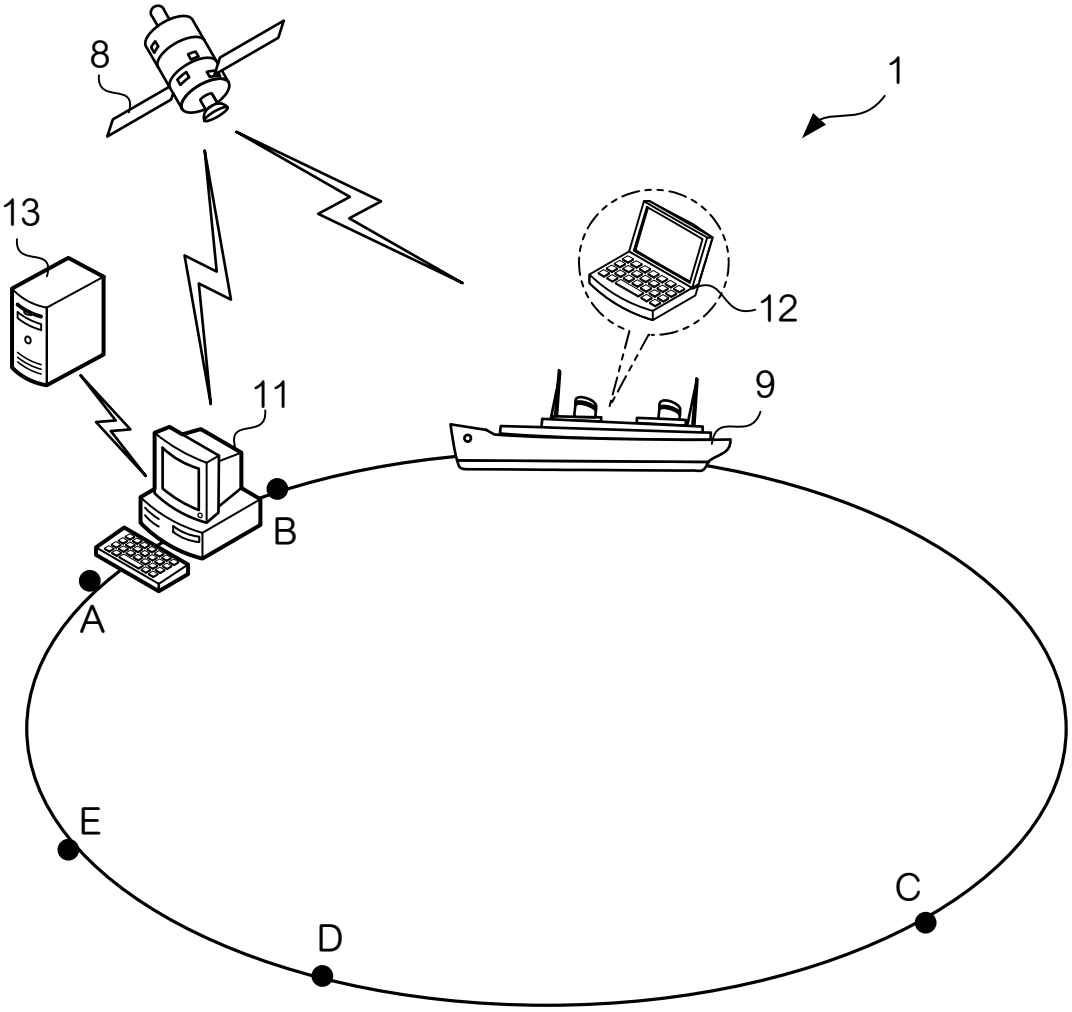
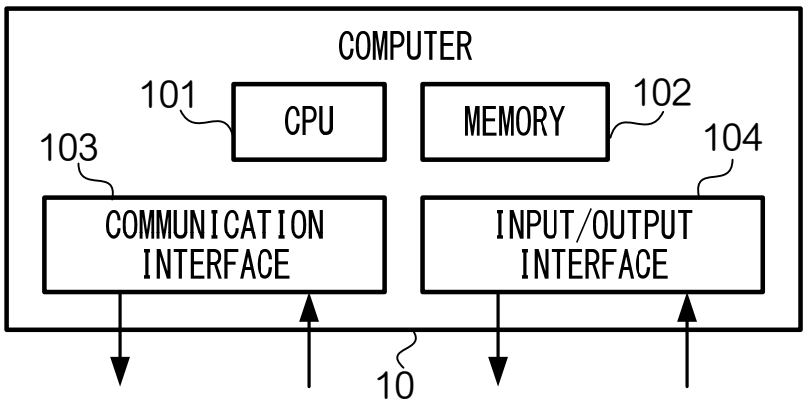
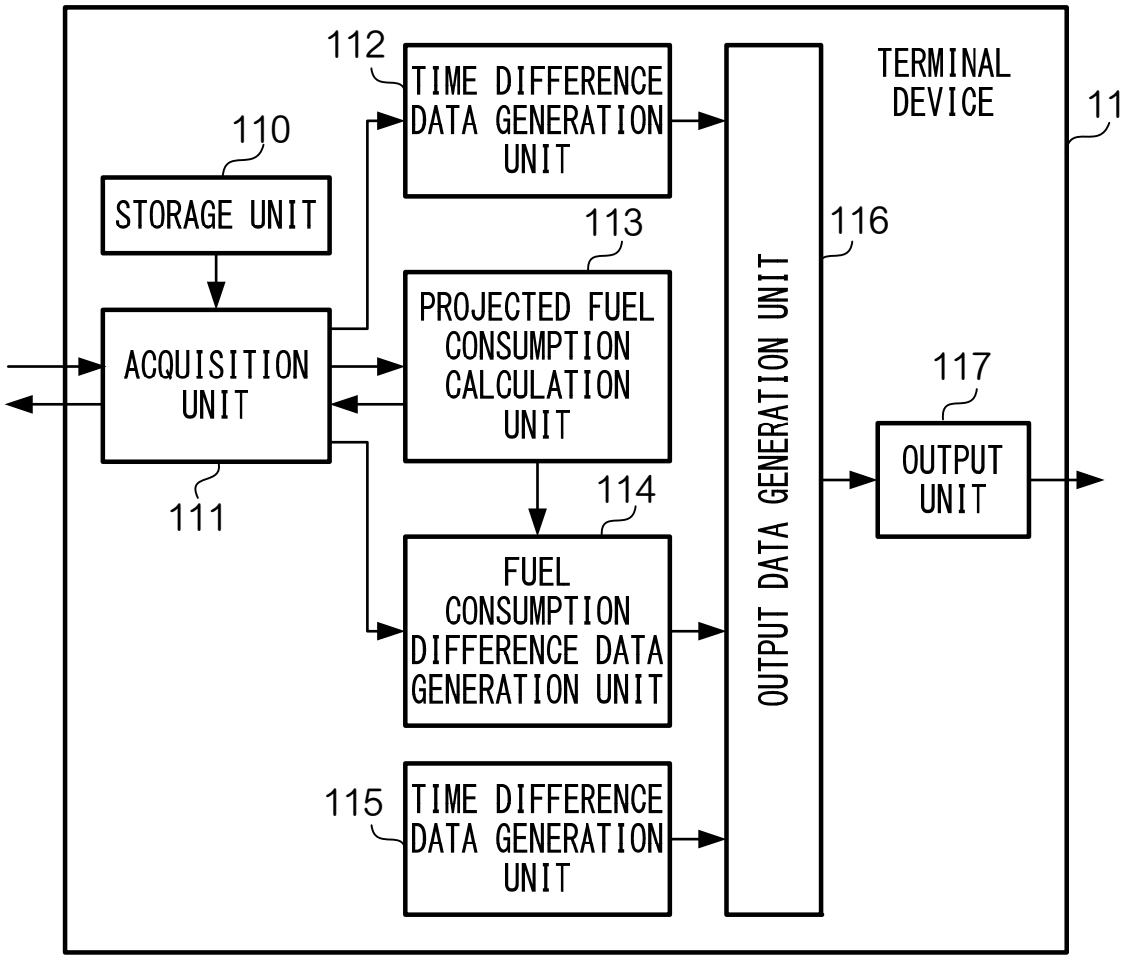
[FIG.1]


8
1
13
12
11
9
B
A
E
C
D

[FIG.2]


COMPUTER
101
CPU
MEMORY
102
103
104
COMMUNICATION INTERFACE
INPUT/OUTPUT INTERFACE
10

[FIG.3]


TERMINAL DEVICE
11
112
TIME DIFFERENCE DATA GENERATION UNIT
110
STORAGE UNIT
113
PROJECTED FUEL CONSUMPTION CALCULATION UNIT
116
OUTPUT DATA GENERATION UNIT
ACQUISITION UNIT
111
117
OUTPUT UNIT
114
FUEL CONSUMPTION DIFFERENCE DATA GENERATION UNIT
115
TIME DIFFERENCE DATA GENERATION UNIT

[FIG.4]

SHIP ID "ABC" / ROUTE ID "1234"

TABLE OF REFERENCE VALUES FOR TRAVEL

TRAVEL SEGMENT	SAILING DISTANCE (miles)	SAILING TIME (hours)	SAILING SPEED (knots)
A－B	190	13.5	13.5
B－C	3700	200.0	200.0
C－D	1400	85.0	85.0
D－E	700	46.0	46.0
E－A	150	12.5	12.5

TABLE OF REFERENCE VALUES WHILE IN PORT OF CALL

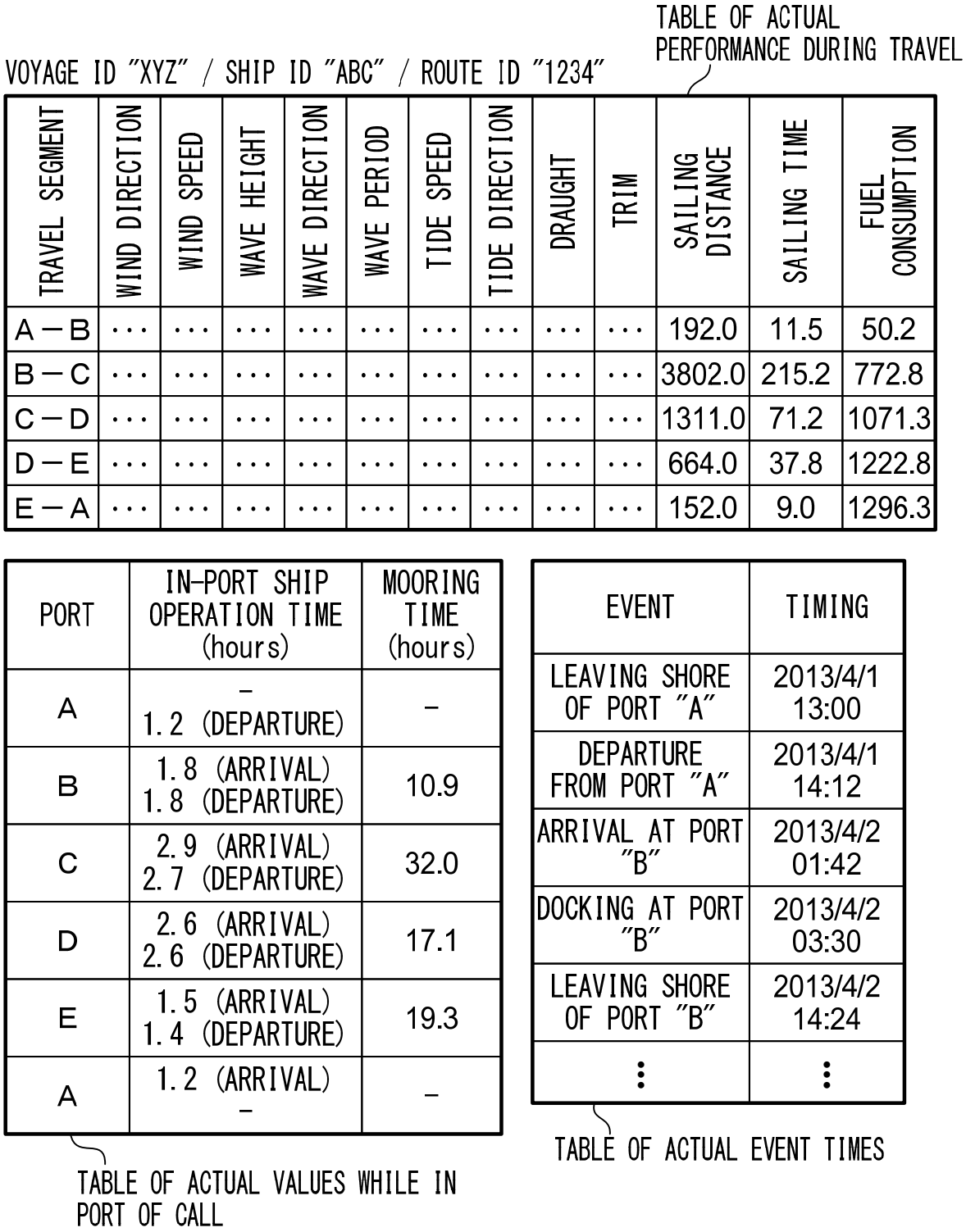
PORT	IN-PORT SHIP OPERATION TIME (hours)	MOORING TIME (hours)
A	－ 2.0 (DEPARTURE)	－
B	2.0 (ARRIVAL) 2.0 (DEPARTURE)	8.0
C	1.0 (ARRIVAL) 1.0 (DEPARTURE)	25.0
D	2.0 (ARRIVAL) 2.0 (DEPARTURE)	17.5
E	2.0 (ARRIVAL) 2.0 (DEPARTURE)	20.0
A	2.0 (ARRIVAL) －	－

[FIG.5]

SHIP ID "ABC"

WIND DIRECTION	WIND SPEED	WAVE HEIGHT	WAVE DIRECTION	WAVE PERIOD	TIDE SPEED	TIDE DIRECTION	DRAUGHT	TRIM	SPEED OVER GROUND	FUEL CONSUMPTION
...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...

[FIG.6]


TABLE OF ACTUAL PERFORMANCE DURING TRAVEL
VOYAGE ID "XYZ" / SHIP ID "ABC" / ROUTE ID "1234"
TRAVEL SEGMENT
WIND DIRECTION
WIND SPEED
WAVE HEIGHT
WAVE DIRECTION
WAVE PERIOD
TIDE SPEED
TIDE DIRECTION
DRAUGHT
TRIM
SAILING DISTANCE
SAILING TIME
FUEL CONSUMPTION
A－B ··· ··· ··· ··· ··· ··· ··· ··· ··· 192.0 11.5 50.2
B－C ··· ··· ··· ··· ··· ··· ··· ··· ··· 3802.0 215.2 772.8
C－D ··· ··· ··· ··· ··· ··· ··· ··· ··· 1311.0 71.2 1071.3
D－E ··· ··· ··· ··· ··· ··· ··· ··· ··· 664.0 37.8 1222.8
E－A ··· ··· ··· ··· ··· ··· ··· ··· ··· 152.0 9.0 1296.3
PORT
IN-PORT SHIP OPERATION TIME (hours)
MOORING TIME (hours)
A – 1.2 (DEPARTURE) –
B 1.8 (ARRIVAL) 1.8 (DEPARTURE) 10.9
C 2.9 (ARRIVAL) 2.7 (DEPARTURE) 32.0
D 2.6 (ARRIVAL) 2.6 (DEPARTURE) 17.1
E 1.5 (ARRIVAL) 1.4 (DEPARTURE) 19.3
A 1.2 (ARRIVAL) – –
TABLE OF ACTUAL VALUES WHILE IN PORT OF CALL
EVENT
TIMING
LEAVING SHORE OF PORT "A" 2013/4/1 13:00
DEPARTURE FROM PORT "A" 2013/4/1 14:12
ARRIVAL AT PORT "B" 2013/4/2 01:42
DOCKING AT PORT "B" 2013/4/2 03:30
LEAVING SHORE OF PORT "B" 2013/4/2 14:24
TABLE OF ACTUAL EVENT TIMES

[FIG.7]

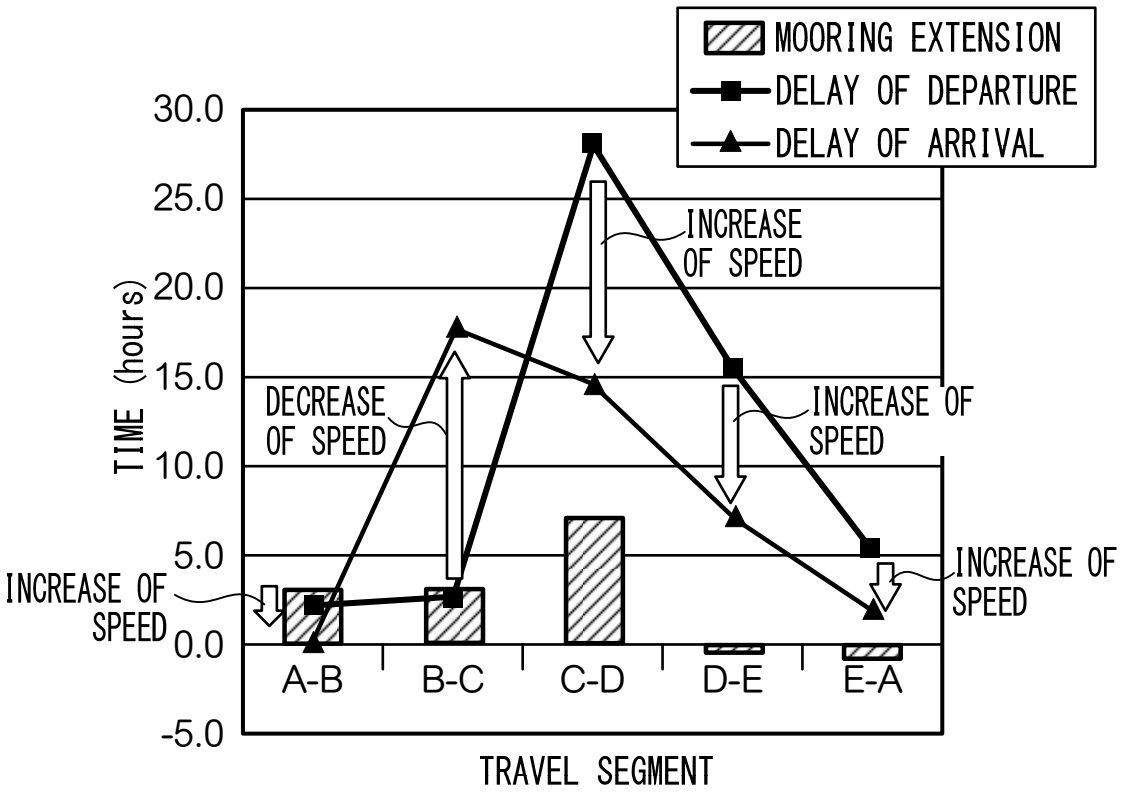
TIME RANGE "2013/4/1 12:00 - 2013/4/2 01:30"
"SEA AREA A-B"

WIND DIRECTION	WIND SPEED	WAVE HEIGHT	WAVE DIRECTION	WAVE PERIOD	TIDE SPEED	TIDE DIRECTION
...	...	...	...	...	...	...

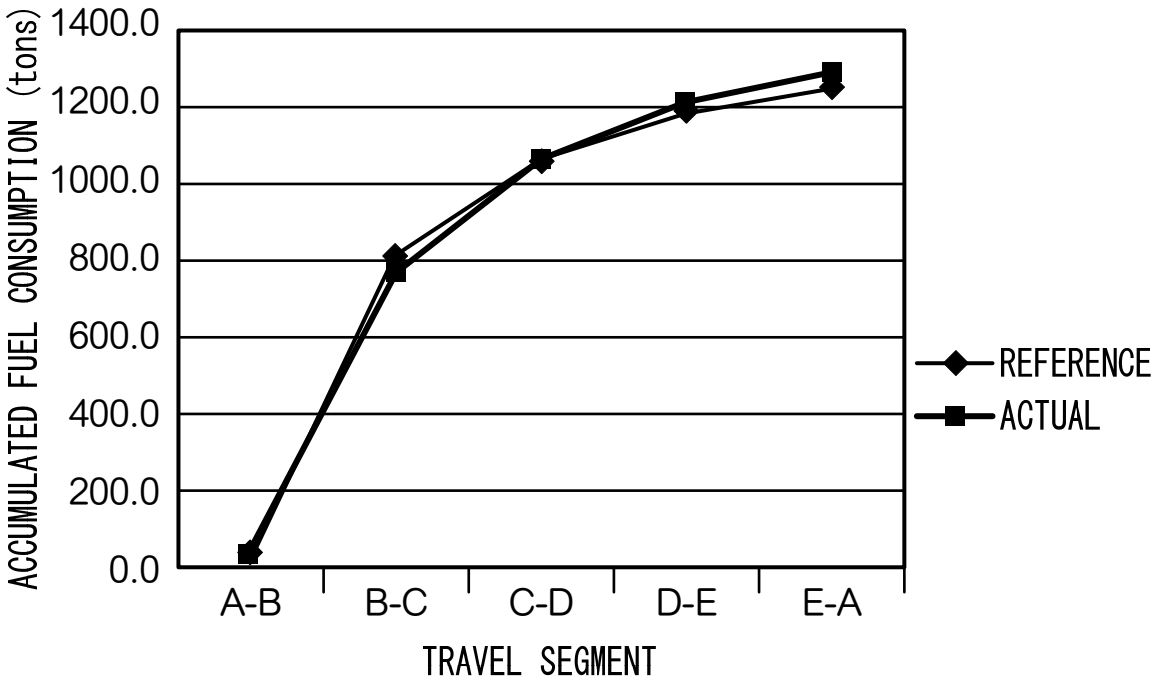
[FIG.8]

	TIME			FUEL CONSUMPTION				TIME DIFFERENCE	
	REFERENCE	ACTUAL	DIFFERENCE	REFERENCE	ACTUAL	DIFFERENCE	ACCUMULATION		
DELAY OF DEPARTURE FROM PORT "A"	0.0	3.0	3.0					3.00	LEAVING SHORE OF PORT "A"
TIME SPENT LEAVING SHORE OF PORT "A"	2.0	1.2	-0.8					2.20	DEPARTURE FROM PORT "A"
TIME SPENT SAILING FROM PORT "A" TO PORT "B"	13.5	11.5	-2.0	42.2	50.2	8.0	8.0	0.20	ARRIVAL AT PORT "B"
TIME SPENT DOCKING FOR PORT "B"	2.0	1.8	-0.2					0.00	DOCKING AT PORT "B"
TIME SPENT MOORING AT PORT "B"	8.0	10.9	2.9					2.90	LEAVING SHORE OF PORT "B"
TIME SPENT LEAVING SHORE OF PORT "B"	2.0	1.8	-0.2					2.70	DEPARTURE FROM PORT "B"
TIME SPENT SAILING FROM PORT "B" TO PORT "C"	200.0	215.2	15.2	777.7	722.6	-55.1	-47.1	17.90	ARRIVAL AT PORT "C"
TIME SPENT DOCKING FOR PORT "C"	1.0	2.9	1.9					19.80	DOCKING AT PORT "C"
TIME SPENT MOORING AT PORT "C"	25.0	32.0	7.0					26.80	LEAVING SHORE OF PORT "C"
TIME SPENT LEAVING SHORE OF PORT "C"	1.0	2.7	1.7					28.50	DEPARTURE FROM PORT "C"
TIME SPENT SAILING FROM PORT "C" TO PORT "D"	85.0	71.2	-13.8	245.5	298.5	53.0	5.9	14.70	ARRIVAL AT PORT "D"
TIME SPENT DOCKING FOR PORT "D"	2.0	2.6	0.6					15.30	DOCKING AT PORT "D"
TIME SPENT MOORING AT PORT "D"	17.5	17.1	-0.4					14.90	LEAVING SHORE OF PORT "D"
TIME SPENT LEAVING SHORE OF PORT "D"	2.0	2.6	0.6					15.50	DEPARTURE FROM PORT "D"
TIME SPENT SAILING FROM PORT "D" TO PORT "E"	46.0	37.8	-8.2	127.2	151.5	24.3	30.2	7.30	ARRIVAL AT PORT "E"
TIME SPENT DOCKING FOR PORT "E"	2.0	1.5	-0.5					6.80	DOCKING AT PORT "E"
TIME SPENT MOORING AT PORT "E"	20.0	19.3	-0.7					6.10	LEAVING SHORE OF PORT "E"
TIME SPENT LEAVING SHORE OF PORT "E"	2.0	1.4	-0.6					5.50	DEPARTURE FROM PORT "E"
TIME SPENT SAILING FROM PORT "E" TO PORT "A"	12.5	9.0	-3.5	60.3	73.5	13.2	43.4	2.00	ARRIVAL AT PORT "A"
TIME SPENT DOCKING FOR PORT "A"	2.0	1.2	-0.8					1.20	DOCKING AT PORT "A"

[FIG.9]


MOORING EXTENSION
DELAY OF DEPARTURE
DELAY OF ARRIVAL
30.0
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
TIME (hours)
INCREASE OF SPEED
DECREASE OF SPEED
INCREASE OF SPEED
INCREASE OF SPEED
INCREASE OF SPEED
A-B
B-C
C-D
D-E
E-A
TRAVEL SEGMENT

[FIG.10]


1400.0
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
ACCUMULATED FUEL CONSUMPTION (tons)
REFERENCE
ACTUAL
A-B
B-C
C-D
D-E
E-A
TRAVEL SEGMENT