Expts.	g' (cm/s2)	f (1/s)	topo	hs (cm)	hb (cm)	h1st (cm)	nst	Lst (cm)	tst (s)	h1nd (cm)	nnd	Lnd (cm)	tnd (s)
A	0.9	3.00	1	3.5	9.5	1.8	15	3.5	75	3.5	15	8.0	409
B	0.9	3.00	0	3.5	0.0	1.8	15	3.2	62	0.0	0	0.0	0
C	0.9	1.00	1	3.5	9.5	1.5	9	6.6	190	3.5	6	17.9	775
D	0.9	1.00	0	3.5	0.0	1.5	7	6.0	162	0.0	0	0.0	0
E	0.9	0.60	0	3.5	0.0	1.5	5	10.0	262	0.0	0	0.0	0
1	0.9	3.00	2	3.5	9.5	1.8	15	3.1	75	3.5	0	0.0	0
6	4.5	3.00	2	3.5	9.5	1.5	12	4.2	60	3.5	12	18.1	1036
10	0.9	3.00	3	3.5	9.5	1.8	17	3.0	62	3.5	18	8.0	308
13	4.5	3.00	2	3.5	9.5	1.5	12	4.2	50	3.5	12	19.0	1113
14	4.5	3.00	1	3.5	9.5	1.5	12	4.2	70	3.5	9	13.0	510
15	4.5	3.00	0	3.5	9.5	1.5	11	4.1	75	0.0	0	0.0	0
16	2.2	3.00	1	3.5	9.5	2.0	15	4.0	81	3.5	13	9.9	390
17	2.2	3.00	2	3.5	9.5	2.3	12	4.1	76	3.5	18	12.5	809
18	2.2	3.00	0	3.5	9.5	2.0	13	3.9	114	0.0	0	0.0	0
23	4.5	3.00	1	3.5	9.5	1.5	12	4.7	60	3.5	5	12.7	530
24	4.5	3.00	2	3.5	9.5	1.5	12	4.6	70	3.5	13	17.7	780
25	2.2	3.00	1	3.5	9.5	2.0	15	4.0	55	3.5	15	10.5	472
27	4.5	3.00	1	3.5	9.5	1.5	12	4.4	65	3.5	12	13.2	505
29	4.5	3.00	2	3.5	9.5	1.5	12	4.0	151	3.5	12	19.2	1095
31	4.5	3.00	1	3.5	9.5	1.5	12	4.5	60	3.5	9	13.0	515
32	4.5	3.00	2	3.5	9.5	1.5	11	4.2	67	3.5	12	18.0	855
35	2.2	3.00	3	3.5	9.5	2.0	12	4.0	77	3.5	13	12.0	365
36	4.5	3.00	3	3.5	9.5	1.5	12	4.4	75	3.0	12	14.2	336
37	4.5	1.34	1	3.5	9.5	2.0	6	7.9	179	3.5	5	24.0	855
38	4.5	0.60	1	3.5	9.5	0.0	0	0.0	0	0.0	0	0.0	0
39	4.5	0.60	0	3.5	0.0	1.0	3	23.0	0 455	0.0	0	0.0	0
40	2.2	0.60	1	3.5	9.5	0.0	0	0.0	0	0.0	0	0.0	0
41	2.2	0.94	1	3.5	9.5	2.0	8	8.1	76	3.5	3	25.0	835
42	2.2	0.60	0	3.5	0.0	1.5	5	12.0	0 210	0.0	0	0.0	0
43	0.9	0.60	1	3.5	9.5	2.0	7	8.0	145	3.5	5	24.0	850
44	0.9	0.60	0	3.5	0.0	1.5	6	7.0	135	0.0	0	0.0	0
45	0.9	0.60	2	3.5	9.5	1.5	7	8.4	155	0.0	0	0.0	0
46	2.2	0.94	2	3.5	9.5	1.8	7	10.0	145	0.0	0	0.0	0
47	4.5	1.34	2	3.5	9.5	1.5	8	9.0	139	0.0	0	0.0	0
48	2.2	0.74	1	3.5	9.5	3.5	4	26.0	925	0.0	0	0.0	0
49	2.2	0.60	1	3.5	9.5	0.0	0	0.0	0	0.0	0	0.0	0
50	2.2	0.66	1	3.5	9.5	3.5	2	29.0	1320	0.0	0	0.0	0
51	2.2	0.74	2	3.5	9.5	1.5	6	12.5	221	0.0	0	0.0	0
52	2.2	0.60	2	3.5	9.5	1.5	6	18.0	0 295	0.0	0	0.0	0
53	2.2	0.74	0	3.5	0.0	1.5	4	12.0	155	0.0	0	0.0	0
54	2.2	0.82	1	3.5	9.5	3.0	7	16.2	317	3.5	5	25.0	847
55	2.2	0.82	2	3.5	9.5	1.7	7	11.5	175	0.0	0	0.0	0
56	2.2	1.56	2	3.5	9.5	1.5	9	7.0	50	3.5	9	24.0	1131
57	2.2	0.82	0	3.5	0.0	1.3	5	10.0	138	0.0	0	0.0	0
61	2.2	3.00	1	7.0	9.5	2.3	11	0 4.2	60	5.0	7	12.5	540

Expts.	g' (cm/s2)	f (1/s)	topo	hs (cm)	hb (cm)	h1st (cm)	nst	h1nd (cm)	Lst (cm)	tst (s)	nnd	Lnd (cm)	tnd (s)
62	2.2	3.00	2	7.0	9.5	1.8	11	4.1	60	7.0	13	20.9	1740
63	2.2	3.00	0	7.0	0.0	2.0	13	3.0	70	0.0	0	0.0	0
64	2.2	0.84	1	7.0	9.5	0.0	0	0.0	0	0.0	0	0.0	0
65	2.2	0.84	2	7.0	9.5	2.0	6	12.0	215	0.0	0	0.0	0
66	2.2	0.84	0	7.0	0.0	2.0	4	11.7	205	0.0	0	0.0	0
67	2.2	1.56	1	7.0	9.5	2.5	7	7.1	152	4.0	3	19.0	625
68	2.2	1.56	2	7.0	9.5	2.5	8	7.0	115	0.0	0	0.0	0
69	2.2	1.56	0	7.0	0.0	2.5	6	6.9	125	0.0	0	0.0	0
70	4.5	0.86	1	3.5	9.5	0.0	0	0.0	0	0.0	0	0.0	0
71	4.5	0.86	2	3.5	9.5	1.5	7	20.0	0 355	0.0	0	0.0	0
72	4.5	0.86	0	3.5	0.0	1.4	4	14.0	3 255	0.0	0	0.0	0
73	4.5	1.06	1	3.5	9.5	3.5	4	25.5	815	0.0	0	0.0	0
74	4.5	1.06	2	3.5	9.5	1.5	7	14.4	195	0.0	0	0.0	0
75	4.5	1.06	0	3.5	0.0	1.3	5	11.5	155	0.0	0	0.0	0
79	2.2	0.60	3	3.5	9.5	0.0	0	0.0	0	0.0	0	0.0	0
80	2.2	0.94	3	3.5	9.5	1.6	6	8.0	135	3.5	5	26.5	805
81	2.2	0.74	3	3.5	9.5	3.5	4	27.2	762	0.0	0	0.0	0

Table 1. Overview of the experimental parameters (columns 2-6) and measured quantities (columns 7-14). The flowrate $Q = 10\ cm^3 s^{-1}$, the slope $s = 0.5$ and the continental shelf width $W = 7\ cm$ are the same for all experiments. Column 4 indicates the different kind of bottom topographies where: (0) is the flat topography (figure 1a), (1) is the continental ridge topography (figure 1b), (2) is the continental slope topography (figure 1c) and (3) is the ridge over a continental slope topography (figure 1d). The width L_{st} (L_{nd}) and depth h_{1st} ($h_{1\mathrm{nd}}$) of the current are measured just before the first (second) instability. n_{st} and n_{nd} are the azimuthal wavenumbers for the first and second instability, respectively. t_{st} and t_{nd} are the time after at which the first and second instability occurs, respectively.