

DAFTAR PUSTAKA

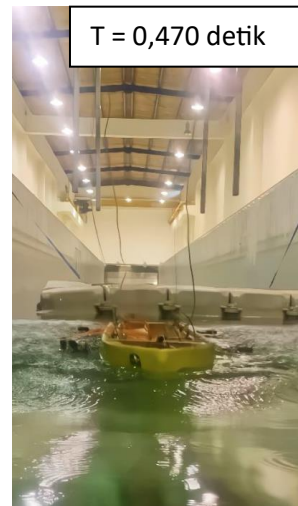
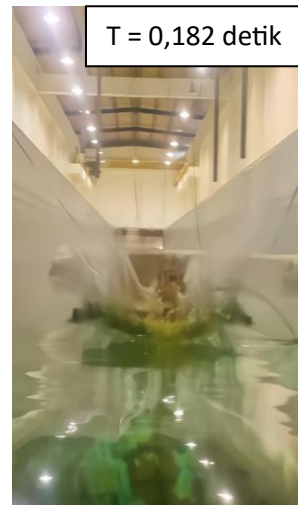
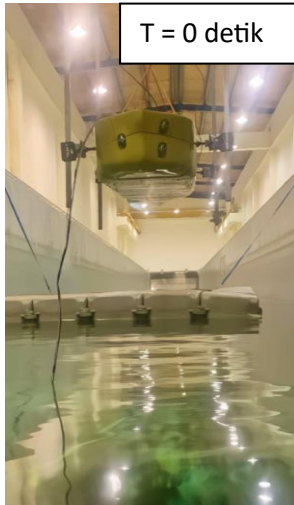
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LAMPIRAN

Lampiran 1. Data hasil pengujian dropping test pada kemiringan 5 derajat

Time history dropping test sudut kemiringan 5 derajat.



Pembacaan sensor pada Arduino Uno di sudut 5 derajat.

15:02:01.642 -> Weight: 0.00 kg	Weight: 0.00 kg	Weight: 0.00 kg
15:02:01.709 -> Weight: 0.00 kg	Weight: 0.00 kg	Weight: 0.00 kg
15:02:01.824 -> Weight: 6.97 kg	Weight: 3.79 kg	Weight: 2.23 kg
15:02:01.889 -> Weight: 2.17 kg	Weight: 1.58 kg	Weight: 0.32 kg
15:02:01.991 -> Weight: 1.67 kg	Weight: 1.35 kg	Weight: 0.21 kg
15:02:02.108 -> Weight: 1.28 kg	Weight: 1.15 kg	Weight: 0.16 kg
15:02:02.191 -> Weight: 1.09 kg	Weight: 0.93 kg	Weight: 0.09 kg
15:02:02.257 -> Weight: 0.67 kg	Weight: 0.41 kg	Weight: 0.05 kg
15:02:02.366 -> Weight: 0.35 kg	Weight: 0.21 kg	Weight: 0.06 kg
15:02:02.442 -> Weight: 0.34 kg	Weight: 0.28 kg	Weight: 0.03 kg
15:02:02.514 -> Weight: 0.29 kg	Weight: 0.22 kg	Weight: 0.02 kg
15:02:02.557 -> Weight: 0.26 kg	Weight: 0.19 kg	Weight: 0.02 kg
15:02:02.625 -> Weight: 0.22 kg	Weight: 0.17 kg	Weight: 0.01 kg
15:02:02.671 -> Weight: 0.18 kg	Weight: 0.14 kg	Weight: 0.01 kg
15:02:02.704 -> Weight: 0.14 kg	Weight: 0.09 kg	Weight: 0.00 kg
15:02:02.741 -> Weight: 0.13 kg	Weight: 0.07 kg	Weight: 0.00 kg
15:02:02.810 -> Weight: 0.09 kg	Weight: 0.05 kg	Weight: 0.00 kg
15:02:02.895 -> Weight: 0.06 kg	Weight: 0.02 kg	Weight: 0.00 kg
15:02:02.941 -> Weight: 0.03 kg	Weight: 0.01 kg	Weight: 0.00 kg

Hasil perhitungan tekanan pada sudut kemiringan 5 derajat.

		S1	S2	S3	S1	S2	S3	S1	S2	S3
	t (detik)	w(kg)	w(kg)	w(kg)	f (N)	f (N)	f (N)	P (N/M ²)	P (N/M ²)	P (N/M ²)
	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,642	0,044	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,709	0,054	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,824	0,182	6,97	3,79	2,23	68,30	37,10	21,89	75885	41225	24326
0,889	0,247	2,17	1,58	0,32	21,22	15,51	3,14	23574	17237	3484
0,991	0,349	1,67	1,35	0,21	16,37	13,23	2,06	18184	14700	2287
1,108	0,466	1,28	1,15	0,16	12,54	11,23	1,57	13938	12479	1742
1,191	0,549	1,09	0,93	0,09	10,72	9,09	0,88	11912	10105	980
1,257	0,615	0,67	0,41	0,05	6,58	4,01	0,45	7306	4454	501
1,366	0,724	0,35	0,21	0,06	3,38	2,06	0,59	3757	2287	653
1,442	0,800	0,34	0,28	0,03	3,33	2,74	0,29	3702	3049	327

Lampiran 2. Data hasil pengujian dropping test pada kemiringan 10 derajat

Time history dropping test sudut kemiringan 10 derajat.



Pembacaan sensor pada *Arduino Uno* di sudut 10 derajat

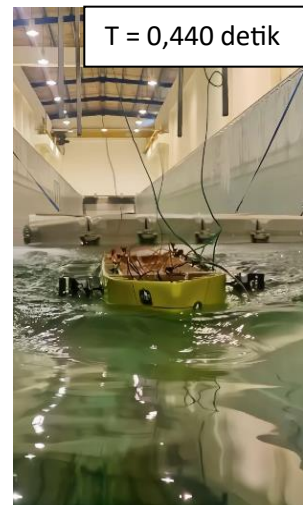
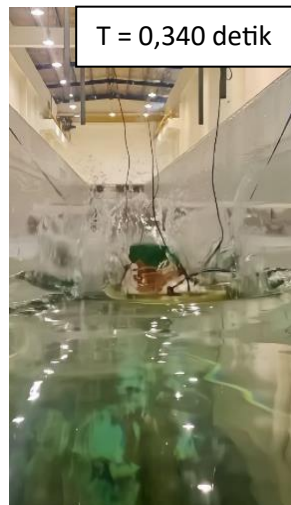
14:38:23.449 -> Weight: 0.00 kg	Weight: 0.00 kg	Weight: 0.00 kg
14:38:23.552 -> Weight: 0.00 kg	Weight: 0.00 kg	Weight: 0.00 kg
14:38:23.636 -> Weight: 5.48 kg	Weight: 3.38 kg	Weight: 1.97 kg
14:38:23.743 -> Weight: 1.63 kg	Weight: 0.92 kg	Weight: 0.42 kg
14:38:23.817 -> Weight: 1.13 kg	Weight: 0.81 kg	Weight: 0.21 kg
14:38:23.919 -> Weight: 0.85 kg	Weight: 0.67 kg	Weight: 0.17 kg
14:38:23.991 -> Weight: 0.65 kg	Weight: 0.59 kg	Weight: 0.06 kg
14:38:24.104 -> Weight: 0.59 kg	Weight: 0.57 kg	Weight: 0.04 kg
14:38:24.208 -> Weight: 0.43 kg	Weight: 0.35 kg	Weight: 0.05 kg
14:38:24.292 -> Weight: 0.37 kg	Weight: 0.19 kg	Weight: 0.01 kg
14:38:24.393 -> Weight: 0.31 kg	Weight: 0.17 kg	Weight: 0.01 kg
14:38:24.467 -> Weight: 0.27 kg	Weight: 0.12 kg	Weight: 0.01 kg
14:38:24.587 -> Weight: 0.23 kg	Weight: 0.10 kg	Weight: 0.00 kg
14:38:24.668 -> Weight: 0.18 kg	Weight: 0.08 kg	Weight: 0.00 kg
14:38:24.740 -> Weight: 0.15 kg	Weight: 0.06 kg	Weight: 0.00 kg
14:38:24.835 -> Weight: 0.11 kg	Weight: 0.03 kg	Weight: 0.00 kg
14:38:24.891 -> Weight: 0.09 kg	Weight: 0.02 kg	Weight: 0.00 kg

Hasil perhitungan tekanan pada sudut kemiringan 10 derajat.

	t (detik)	S1	S2	S3	S1	S2	S3	S1	S2	S3	
		w(kg)	w(kg)	w(kg)	f (N)	f (N)	f (N)	P (N/M ²)	P (N/M ²)	P (N/M ²)	
	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
	0,449	0,044	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
	0,552	0,052	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
	0,636	0,187	5,48	3,38	1,97	53,69	33,16	19,28	59660	36848	21418
	0,743	0,294	1,63	0,92	0,42	15,97	9,02	4,12	17749	10018	4573
	0,817	0,368	1,13	0,81	0,21	11,07	7,94	2,06	12304	8820	2287
	0,919	0,470	0,85	0,67	0,17	8,33	6,57	1,67	9256	7296	1851
	0,991	0,542	0,65	0,59	0,06	6,37	5,78	0,59	7078	6424	653
	1,104	0,655	0,59	0,57	0,04	5,78	5,59	0,39	6424	6207	436
	1,208	0,759	0,43	0,35	0,05	4,21	3,43	0,49	4682	3811	544
	1,292	0,843	0,37	0,19	0,01	3,63	1,86	0,10	4029	2069	109

Lampiran 3. Data hasil pengujian dropping test pada kemiringan 15 derajat

Time history dropping test sudut kemiringan 15 derajat.



Pembacaan sesor pada *Arduino Uno* di sudut 15 derajat.

14:10:31.411 -> Weight: 0.00 kg	Weight: 0.00 kg	Weight: 0.00 kg
14:10:31.487 -> Weight: 0.00kg	Weight: 0.00 kg	Weight: 0.00 kg
14:10:31.598 -> Weight: 3.40 kg	Weight: 2.52 kg	Weight: 1.88 kg
14:10:31.678 -> Weight: 1.15 kg	Weight: 0.79 kg	Weight: 0.23 kg
14:10:31.751 -> Weight: 0.84 kg	Weight: 0.65 kg	Weight: 0.12 kg
14:10:31.851 -> Weight: 0.73 kg	Weight: 0.62 kg	Weight: 0.07 kg
14:10:31.961 -> Weight: 0.61 kg	Weight: 0.56 kg	Weight: 0.05 kg
14:10:32.034 -> Weight: 0.44 kg	Weight: 0.35 kg	Weight: 0.02 kg
14:10:32.144 -> Weight: 0.39 kg	Weight: 0.27 kg	Weight: 0.01 kg
14:10:32.218 -> Weight: 0.32 kg	Weight: 0.15 kg	Weight: 0.01 kg
14:10:32.328 -> Weight: 0.29 kg	Weight: 0.13 kg	Weight: 0.01 kg
14:10:32.434 -> Weight: 0.27kg	Weight: 0.15 kg	Weight: 0.00 kg
14:10:32.509 -> Weight: 0.24 kg	Weight: 0.12 kg	Weight: 0.00 kg
14:10:32.581 -> Weight: 0.20 kg	Weight: 0.07 kg	Weight: 0.00 kg
14:10:32.682-> Weight: 0.18 kg	Weight: 0.05 kg	Weight: 0.00 kg
14:10:32.732 -> Weight: 0.15 kg	Weight: 0.03 kg	Weight: 0.00 kg
14:10:32.806 -> Weight: 0.11 kg	Weight: 0.02 kg	Weight: 0.00 kg

Hasil perhitungan tekanan pada sudut kemiringan 15 derajat.

	t (detik)	S1	S2	S3	S1	S2	S3	S1	S2	S3
		w(kg)	w(kg)	w(kg)	f (N)	f (N)	f (N)	P (N/M ²)	P (N/M ²)	P (N/M ²)
	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,411	0,044	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,487	0,055	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,598	0,187	3,40	2,52	1,88	33,29	24,73	18,45	36990	27473	20504
0,678	0,267	1,15	0,79	0,23	11,27	7,74	2,25	12522	8602	2504
0,751	0,340	0,84	0,65	0,12	8,23	6,37	1,18	9147	7078	1307
0,851	0,440	0,73	0,62	0,07	7,15	6,08	0,69	7949	6751	762
0,961	0,550	0,61	0,56	0,05	5,98	5,49	0,49	6642	6098	544
1,034	0,623	0,44	0,35	0,02	4,31	3,43	0,20	4791	3811	218
1,144	0,733	0,39	0,27	0,01	3,82	2,65	0,10	4247	2940	109
1,218	0,807	0,32	0,15	0,01	3,14	1,47	0,10	3484	1633	109

Lampiran 4. Data hasil pengujian dropping test pada kemiringan 20 derajat

Time history dropping test sudut kemiringan 20 derajat.



Pembacaan sesor pada *Arduino Uno* di sudut 20 derajat.

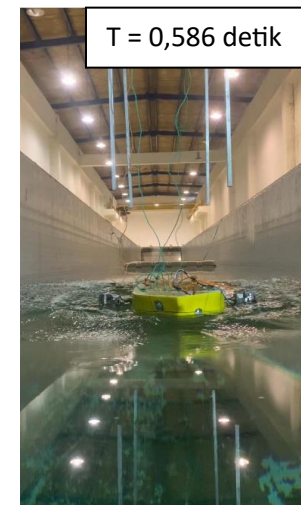
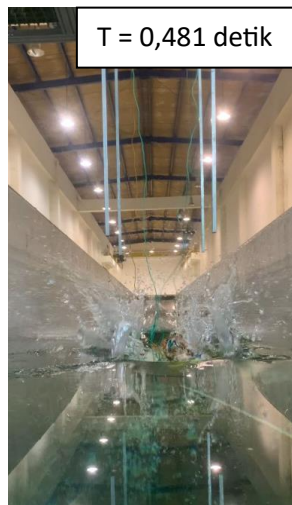
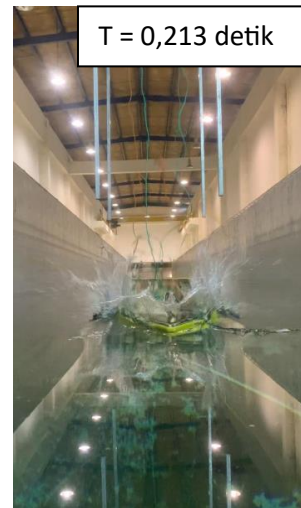
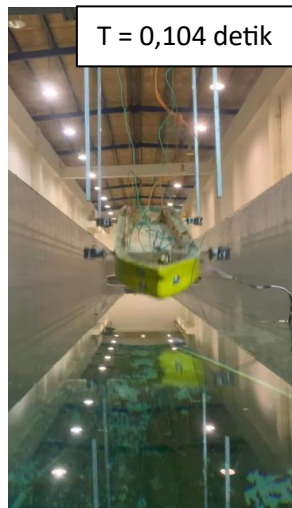
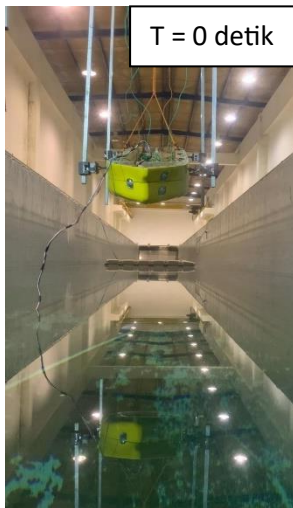
13:35:52.573 -> Weight: 0.00 kg	Weight: 0.00 kg	Weight: 0.00 kg
13:35:52.645 -> Weight: 0.00 kg	Weight: 0.00 kg	Weight: 0.00 kg
13:35:52.759 -> Weight: 2.74 kg	Weight: 2.36 kg	Weight: 1.57 kg
13:35:52.858 -> Weight: 0.72 kg	Weight: 0.57 kg	Weight: 0.21 kg
13:35:52.948 -> Weight: 0.62 kg	Weight: 0.48 kg	Weight: 0.08 kg
13:35:53.028 -> Weight: 0.49 kg	Weight: 0.36 kg	Weight: 0.06 kg
13:35:53.142 -> Weight: 0.52 kg	Weight: 0.32 kg	Weight: 0.05 kg
13:35:53.214 -> Weight: 0.47 kg	Weight: 0.34 kg	Weight: 0.08 kg
13:35:53.273 -> Weight: 0.39 kg	Weight: 0.31 kg	Weight: 0.05 kg
13:35:53.381 -> Weight: 0.24 kg	Weight: 0.18 kg	Weight: 0.01 kg
13:35:53.498 -> Weight: 0.21 kg	Weight: 0.16 kg	Weight: 0.01 kg
13:35:53.573 -> Weight: 0.18 kg	Weight: 0.13 kg	Weight: 0.00 kg
13:35:53.645 -> Weight: 0.15 kg	Weight: 0.10 kg	Weight: 0.00 kg
13:35:53.759 -> Weight: 0.12 kg	Weight: 0.09 kg	Weight: 0.00 kg
13:35:53.858 -> Weight: 0.09 kg	Weight: 0.07 kg	Weight: 0.00 kg
13:35:53.948 -> Weight: 0.07 kg	Weight: 0.05 kg	Weight: 0.00 kg
13:35:54.018 -> Weight: 0.04 kg	Weight: 0.02 kg	Weight: 0.00 kg
13:35:53.101 -> Weight: 0.03 kg	Weight: 0.01 kg	Weight: 0.00 kg

Hasil perhitungan tekanan pada sudut kemiringan 20 derajat.

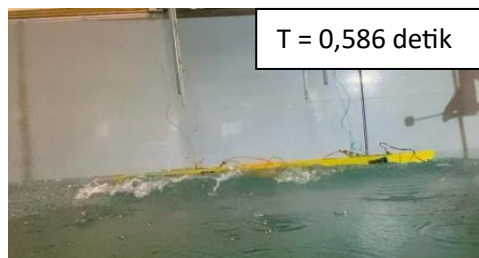
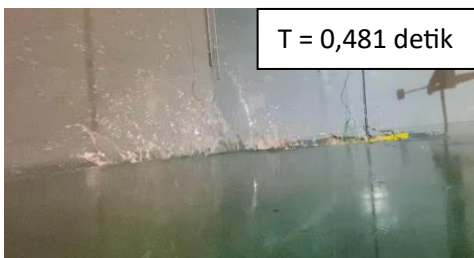
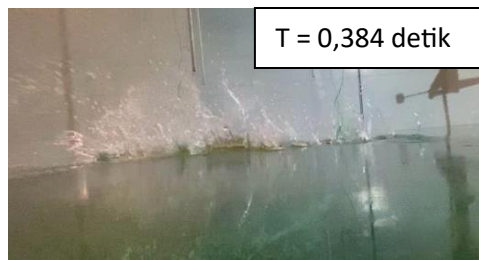
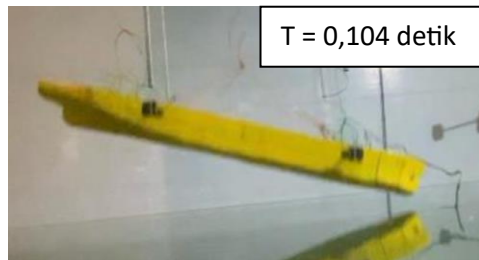
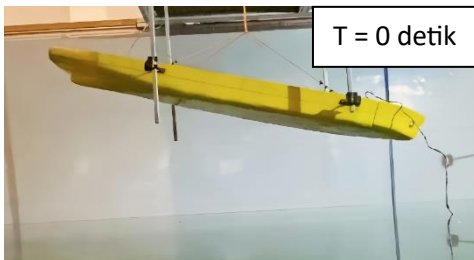
	t (detik)	S1	S2	S3	S1	S2	S3	S1	S2	S3
		w(kg)	w(kg)	w(kg)	f (N)	f (N)	f (N)	P (N/M ²)	P (N/M ²)	P (N/M ²)
	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,537	0,044	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,645	0,053	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,759	0,222	2,74	2,36	1,57	26,80	23,08	15,41	29781	25643	17117
0,858	0,321	0,72	0,57	0,21	7,06	5,59	2,06	7840	6207	2287
0,948	0,411	0,62	0,48	0,08	6,08	4,70	0,74	6751	5227	817
1,028	0,491	0,49	0,36	0,06	4,80	3,53	0,61	5336	3920	675
1,142	0,605	0,52	0,32	0,05	5,10	3,14	0,51	5662	3484	566
1,214	0,677	0,47	0,34	0,08	4,61	3,33	0,77	5118	3702	860
1,273	0,736	0,39	0,31	0,05	3,82	3,04	0,51	4247	3376	566
1,381	0,844	0,24	0,18	0,01	2,35	1,76	0,10	2613	1960	109

Lampiran 5. Data hasil pengujian dr opping test pada kemiringan 15 derajat pada kondisi air tenang

Time history dropping test sudut kemiringan 15 derajat pada kondisi air tenang tampak depan.



Time history dropping test sudut kemringan 15 derajat pada kondisi air tenang tampak samping.



Pembacaan sensor pada *Arduino Uno* di sudut 20 derajat.

15:44:36.430 -> Weight: 0.00 kg	Weight: 0.00 kg	Weight: 0.00 kg
15:44:36.500 -> Weight: 0.00 kg	Weight: 0.00 kg	Weight: 0.00 kg
15:44:36.604 -> Weight: 3.86 kg	Weight: 2.94 kg	Weight: 2.09 kg
15:44:36.713-> Weight: 0.94 kg	Weight: 0.73 kg	Weight: 0.31 kg
15:44:36.779-> Weight: 0.86 kg	Weight: 0.65 kg	Weight: 0.12 kg
15:44:36.884-> Weight: 0.59 kg	Weight: 0.48 kg	Weight: 0.09 kg
15:44:36.981-> Weight: 0.62 kg	Weight: 0.41 kg	Weight: 0.07 kg
15:44:37.086-> Weight: 0.51 kg	Weight: 0.44 kg	Weight: 0.08 kg
15:44:37.162-> Weight: 0.47 kg	Weight: 0.37 kg	Weight: 0.07 kg
15:44:37.263-> Weight: 0.25 kg	Weight: 0.19 kg	Weight: 0.02 kg
15:44:37.363-> Weight: 0.21 kg	Weight: 0.15 kg	Weight: 0.02 kg
15:44:37.462-> Weight: 0.19 kg	Weight: 0.12 kg	Weight: 0.01 kg
15:44:37.537-> Weight: 0.15 kg	Weight: 0.09 kg	Weight: 0.01 kg
15:44:37.619-> Weight: 0.11 kg	Weight: 0.07 kg	Weight: 0.00 kg
15:44:37.720-> Weight: 0.10 kg	Weight: 0.05 kg	Weight: 0.00 kg
15:44:37.829-> Weight: 0.09 kg	Weight: 0.04 kg	Weight: 0.00 kg
15:44:37.930-> Weight: 0.05 kg	Weight: 0.02 kg	Weight: 0.00 kg
15:44:38.025-> Weight: 0.02 kg	Weight: 0.01 kg	Weight: 0.00 kg

Hasil perhitungan tekanan pada sudut kemiringan 20 derajat.

	t (detik)	S1	S2	S3	S1	S2	S3	S1	S2	S3
		w(kg)	w(kg)	w(kg)	f (N)	f (N)	f (N)	P (N/M ²)	P (N/M ²)	P (N/M ²)
	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,500	0,044	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,604	0,056	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0,713	0,213	3,86	2,94	2,09	37,83	28,81	20,48	42031	32013	22758
0,884	0,384	0,94	0,73	0,31	9,21	7,15	3,04	10236	7949	3376
0,981	0,481	0,86	0,65	0,12	8,43	6,37	1,18	9364	7078	1307
1,086	0,586	0,59	0,48	0,09	5,78	4,70	0,87	6424	5227	969
1,162	0,662	0,62	0,41	0,07	6,08	4,02	0,71	6751	4464	784
1,263	0,763	0,51	0,44	0,08	5,00	4,31	0,82	5553	4791	915
1,363	0,863	0,47	0,37	0,07	4,61	3,63	0,67	5118	4029	740
1,462	0,962	0,25	0,19	0,02	2,45	1,86	0,20	2722	2069	218