COERbuoy1: benchmark

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Certificate

for linear, issued on 25.08.21.

Regular waves

0.24 1.00	0.10 1.00	0.16 1.00	0.13 1.00	0.16 1.00
0.24	0.10	0.16	0.13	0.16

Irregular waves

0.06 0.38	0.02 1.00	0.00 1.00	0.02 1.00	0.07 0.84
0.02	0.02	0.02	0.02	0.02

Model error

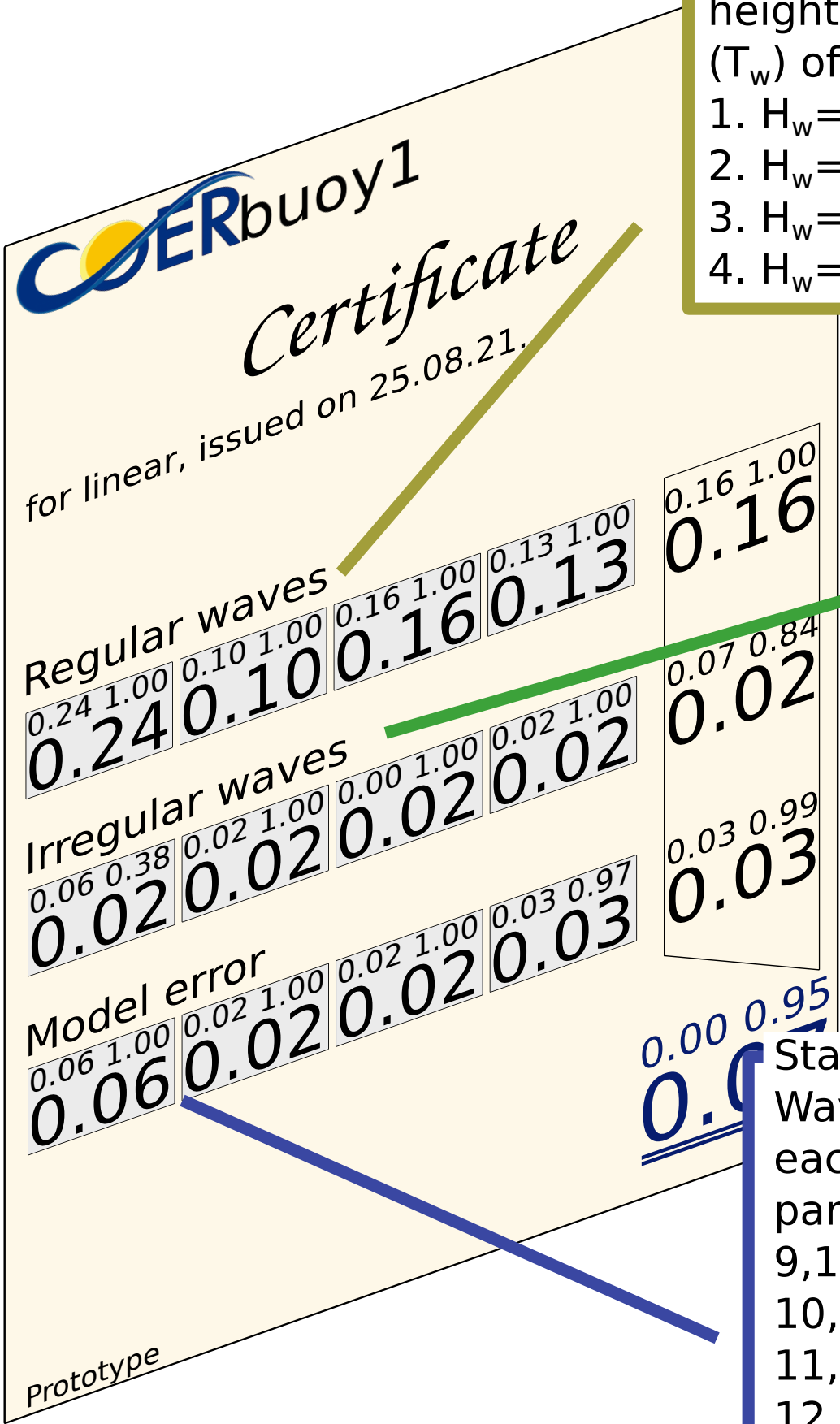| 0.06 1.00	0.02 1.00	0.02 1.00	0.03 0.97	0.03 0.99
0.06	0.02	0.02	0.03	0.03

0.00 0.95
0.0...

Prototype

Stage I:
Regular waves with wave heights (H_w) and wave periods (T_w) of:
1. H_w=1.4 m, T_w= 6 s
2. H_w=2.1 m, T_w= 9 s
3. H_w=4.5 m, T_w= 9 s
4. H_w=4.5 m, T_w= 12 s

Stage II:
Bretschneider waves with significant wave heights (H_s) and wave energy periods (T_e) of:
5. H_s=1 m, T_e= 6 s
6. H_s=1.5 m, T_e= 9 s
7. H_s=3 m, T_e= 9 s
8. H_s=3 m, T_e= 12 s

Stage III:
Waves from Stage II, run 4 times each with slightly different WEC parameters:
9,13,17,21. H_s=1 m, T_e= 6 s
10,14,18,22. H_s=1.5 m, T_e= 9 s
11,15,19,23. H_s=3 m, T_e= 9 s
12,16,20,24. H_s=3 m, T_e= 12 s

power score
generated electric power (within constraints) normalized by the power of an ideal constrained complex-conjugate control

constraints score
time exceeding the constraints / total time

0.02 1.00
0.02

total score
= power · constraints