



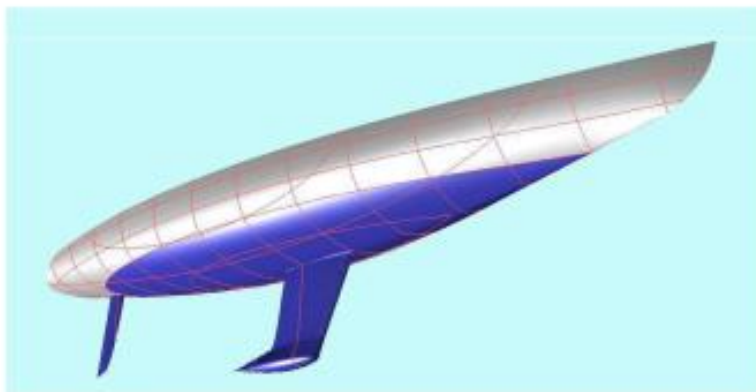
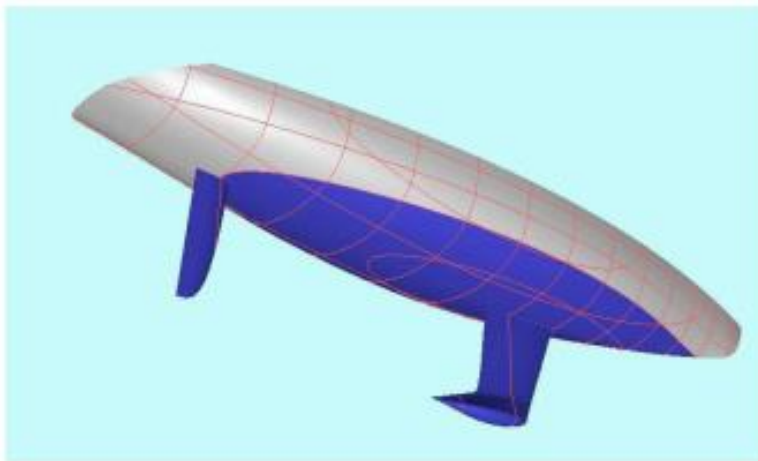
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Sailing Yacht Design & Performance



Dolfi 37





RAO (Response Amplitude Operator)

<https://navalapp.com/articles/added-resistance-in-waves-response-amplitude-operator-calculation/>



Hull Environment

L_{WL} ?

8.400 [m]

T_C ?

0.360 [m]

B_{WL} ?

2.050 [m]

∇_C ?

2.307 [m³]

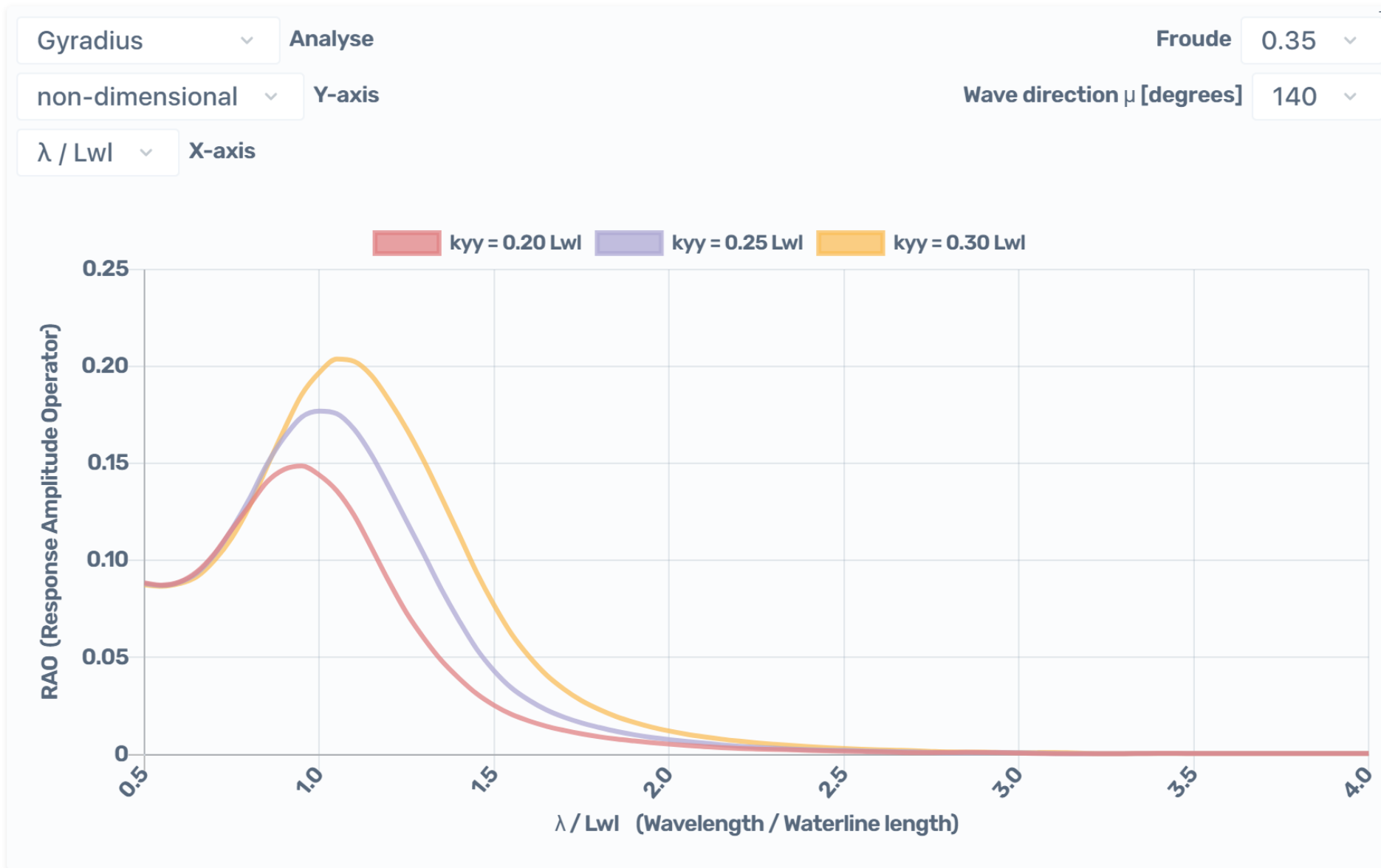
C_P ?

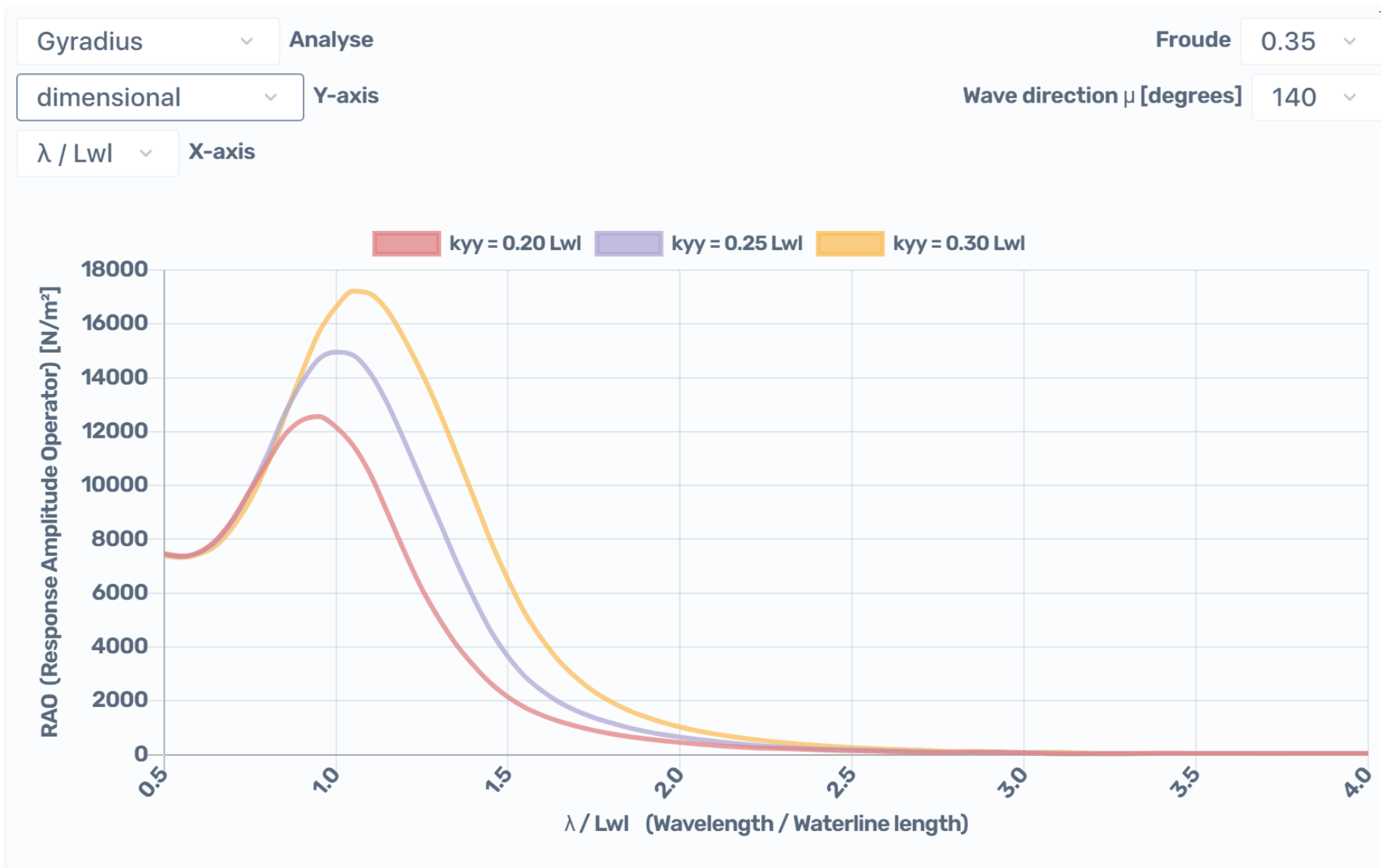
0.532 [--]

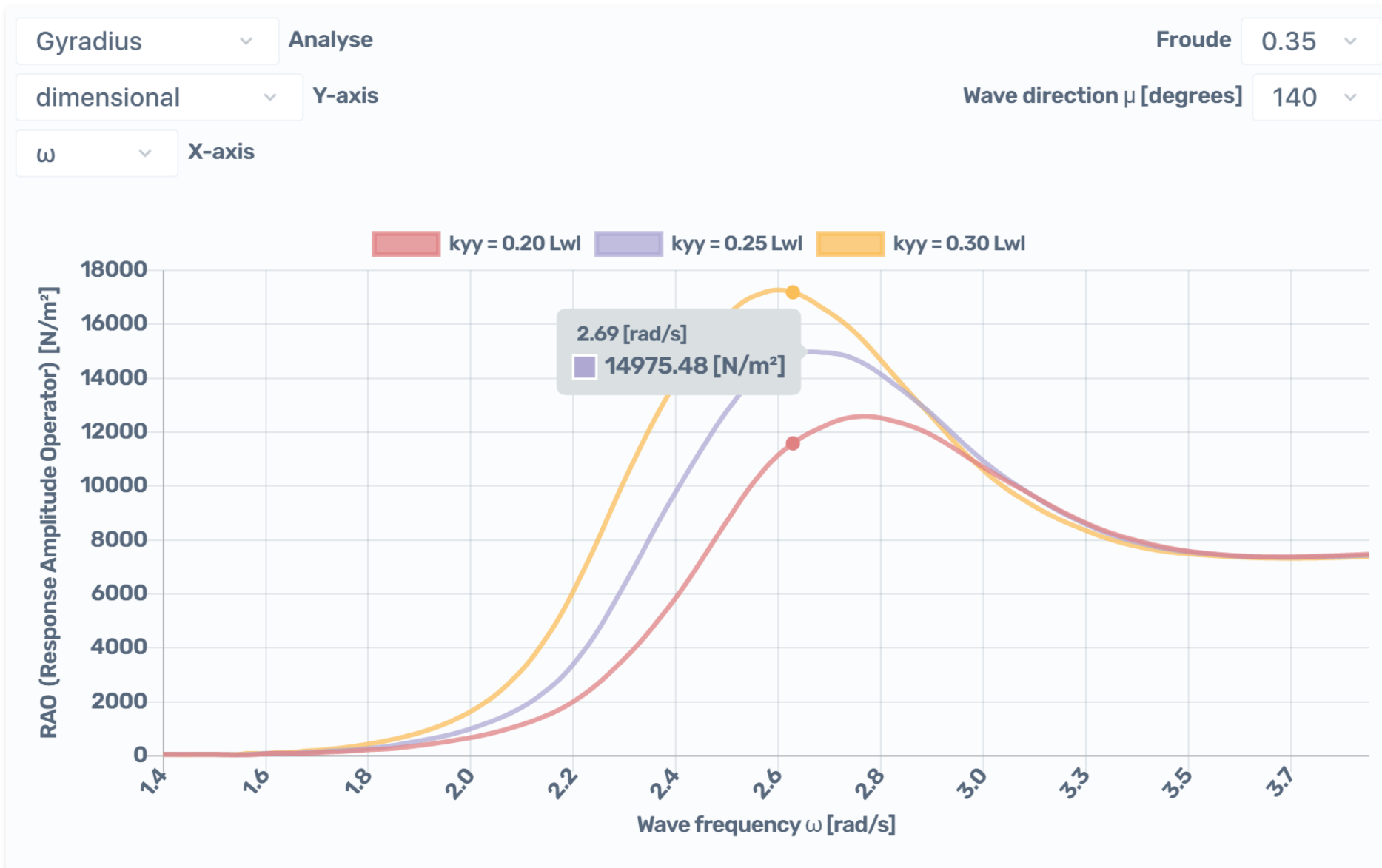
Hull Environment

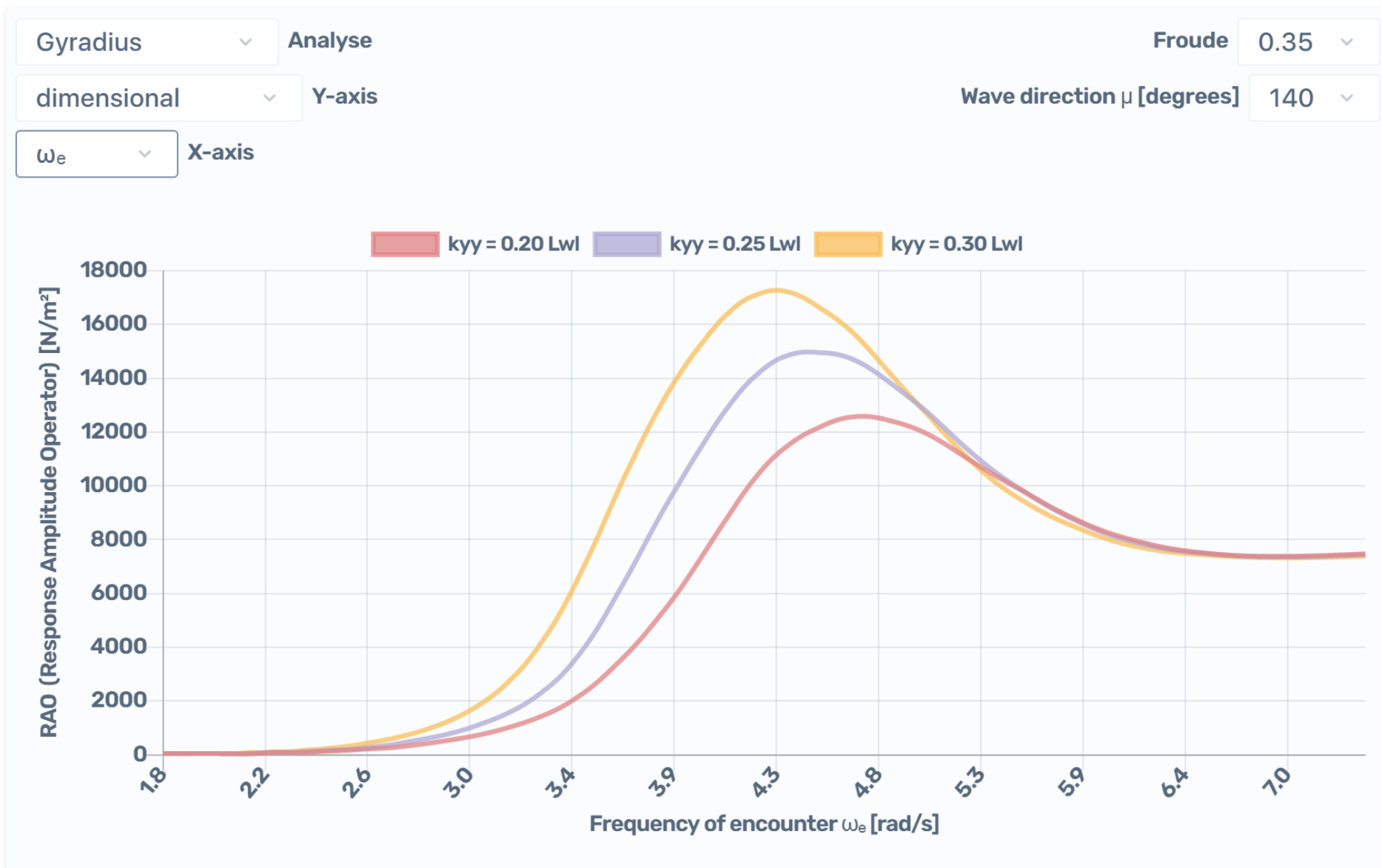
Water density, ρ ?

1025.000 [kg/m³]











Sea states

<https://navalapp.com/articles/wave-spectral-density/>



Environment

$H_{1/3}$?

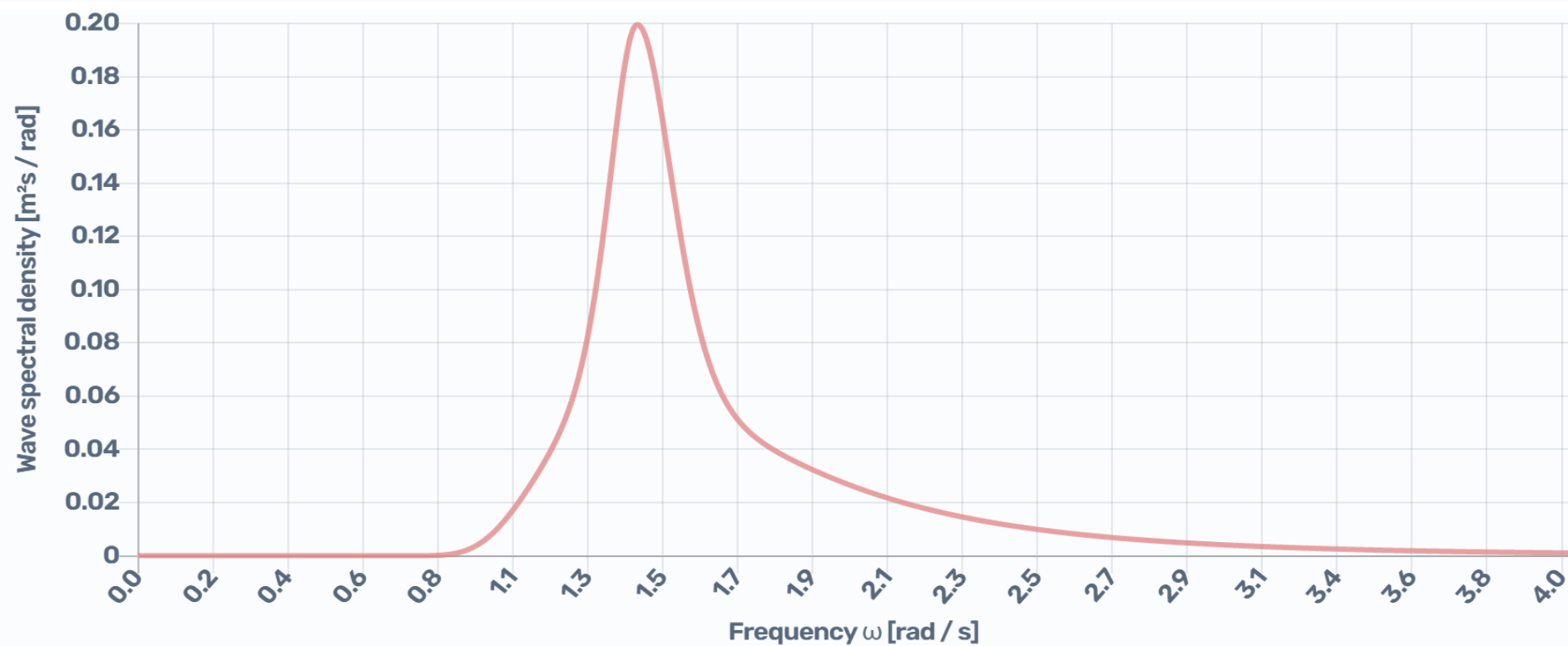
1.200 [m]

T_0 ?

4.488 [s]

Fetch distance ?

Limited ▾





Environment

$H_{1/3}$?

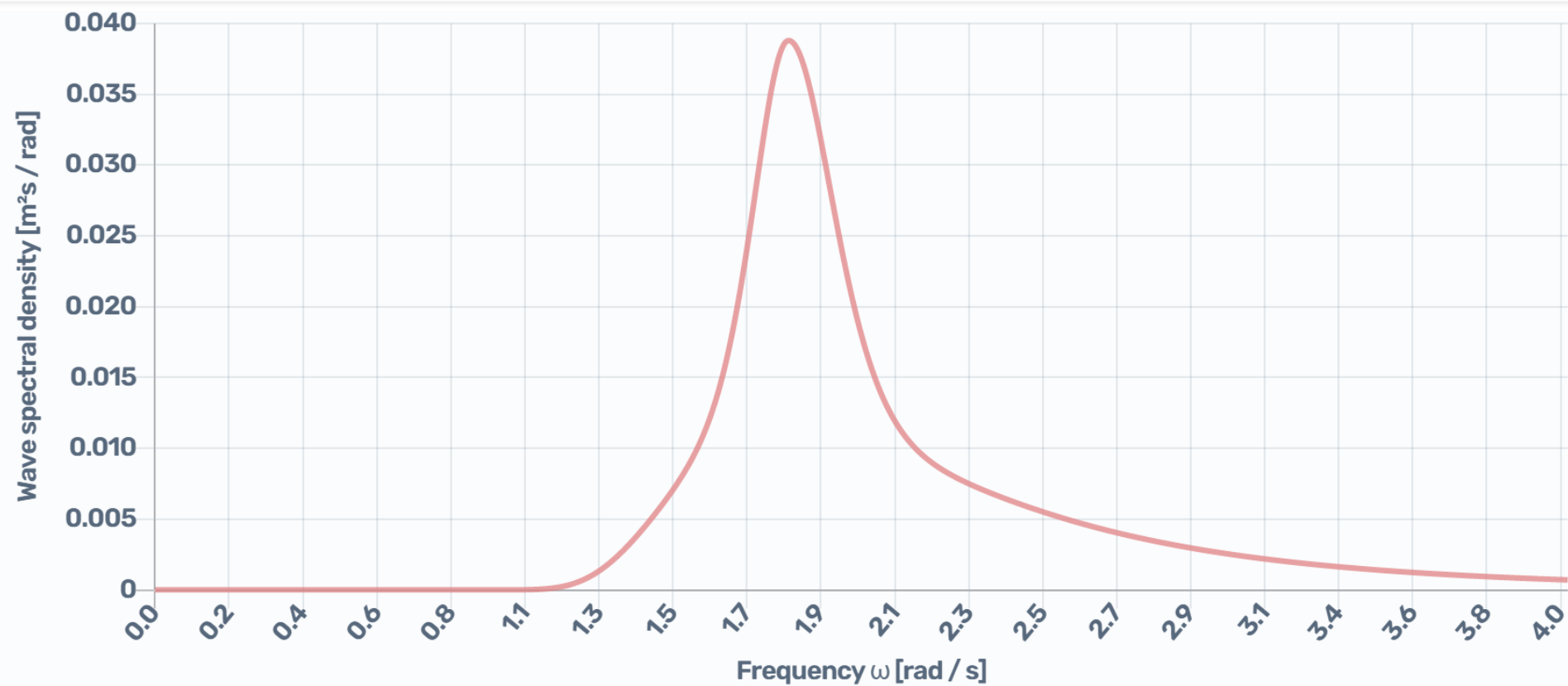
0.600 [m]

T_0 ?

3.491 [s]

Fetch distance ?

Limited 





Added Resistance in Waves (RAW)

<https://navalapp.com/articles/added-resistance-in-waves-knowing-yacht-radius-of-gyration-calculation/>



Yacht **Hull** Environment

K_{yy} ?

[m]

Yacht **Hull** Environment

L_{WL} ?

[m]

T_C ?

[m]

B_{WL} ?

[m]

∇_C ?

[m³]

C_P ?

[--]



Symbol	Parameter	Valid Range	Value
C_P	Prismatic coefficient	0.519 - 0.599	0.5318
B_{WL} / L_{WL}	Beam / Length ratio	0.170 - 0.366	0.2440
$\nabla_C^{1/3} / L_{WL}$	Displacement / Length ratio	0.12 - 0.23	0.1573
C_M	Midship section coefficient ($C_M = A_{Mc} / B_{WL} \cdot T_C \approx \nabla_C / L_{WL} \cdot B_{WL} \cdot T_C \cdot C_P$)	0.646 - 0.790	0.6998
B_{WL} / T_C	Beam / Draft ratio	2.46 - 19.38	5.694
K_{yy} / L_{WL}	Gyradius / Length ratio	0.20 - 0.30	0.2417

Scenario #1

Yacht Hull Environment



Water density, ρ ?

1025.000 [kg/m³]

$H_{1/3}$?

1.200 [m]

T_0 ?

4.488 [s]

Fetch distance ?

Limited ▾

Scenario #2

Yacht Hull Environment

Water density, ρ ?

1025.000 [kg/m³]

$H_{1/3}$?

0.600 [m]

T_0 ?

3.491 [s]

Fetch distance ?

Limited ▾

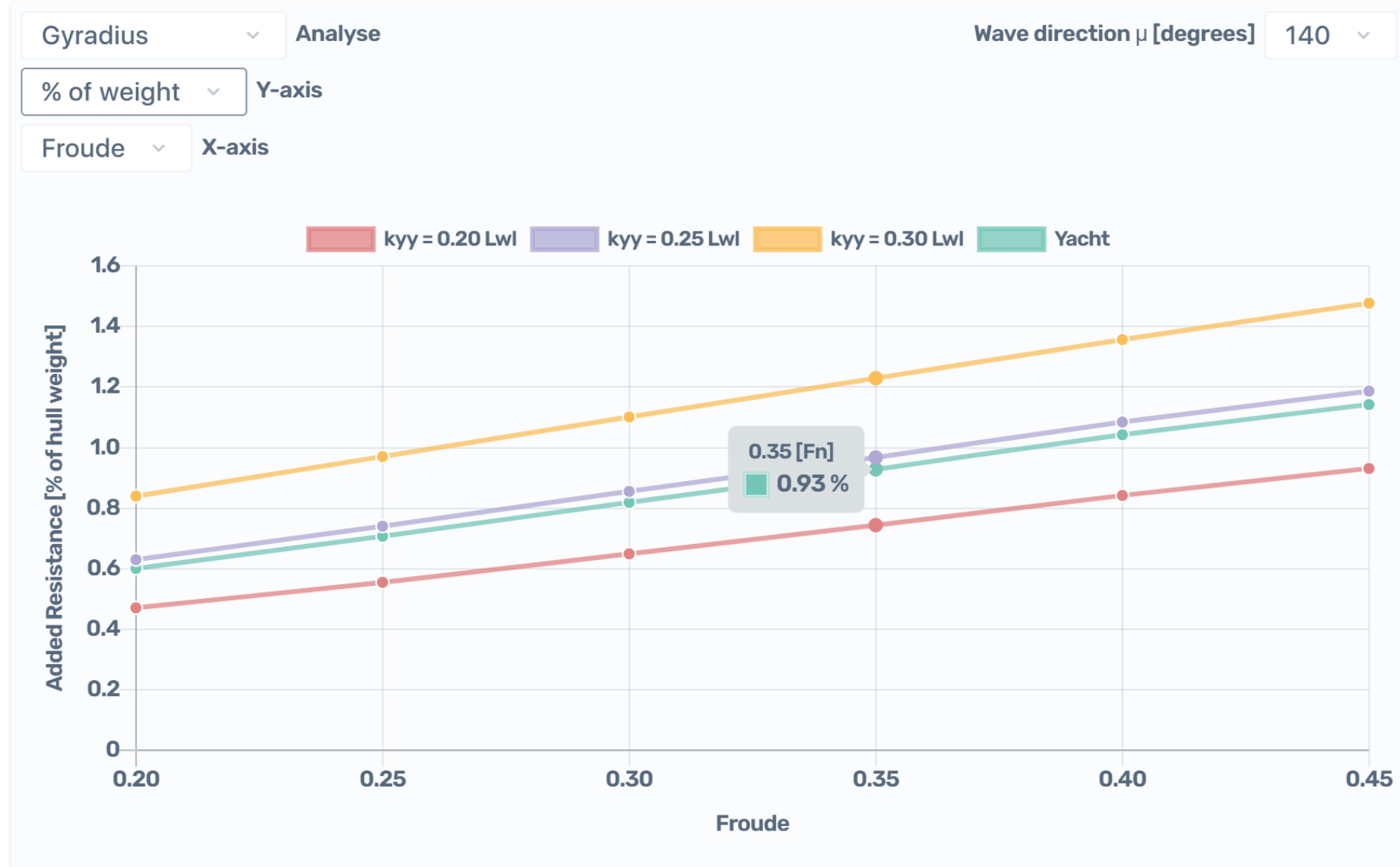


Scenario #1

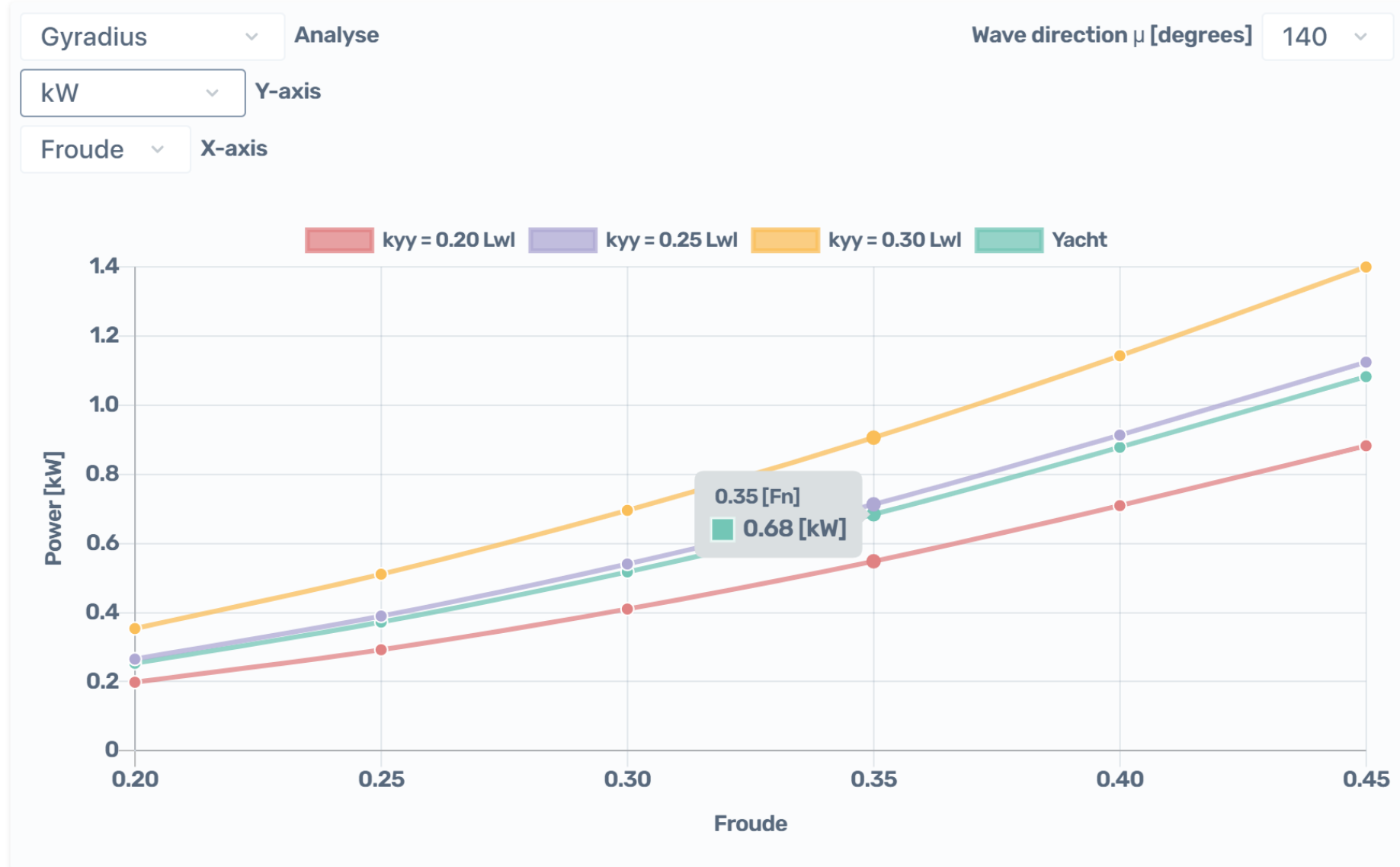
Scenario #1



Scenario #1



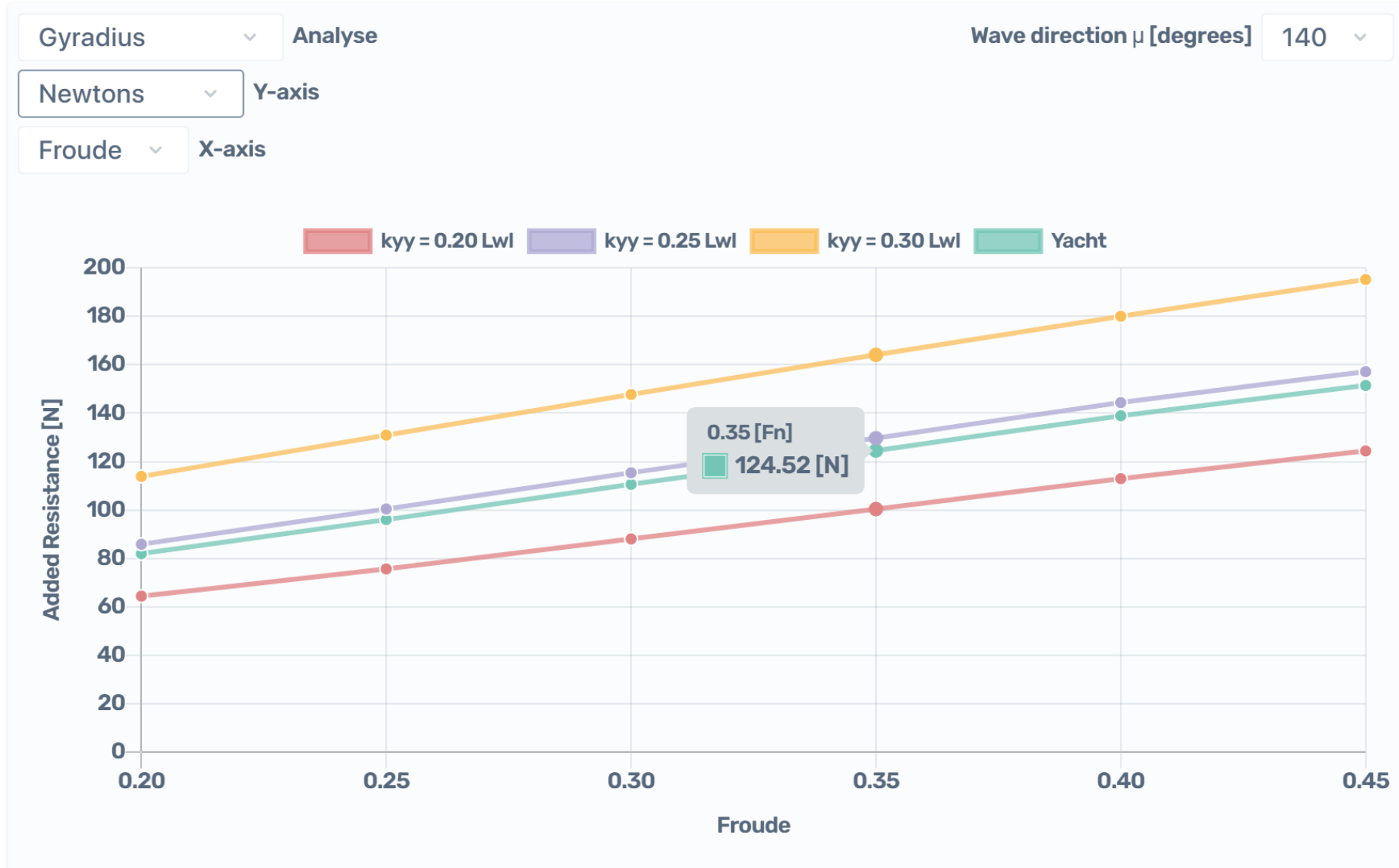
Scenario #1





Scenario #2

Scenario #2



Scenario #2



Scenario #2



<https://navalapp.com>