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Lampiran 1.

Hasil analisis regresi untuk parameter H/L, d/L, Vr/VI dan Vr/Vs terhadap koefisien transmisi (Kt) pada *submerged breakwater*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.929 ^a	.864	.839	.06352

a. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.562	4	.140	34.795	.000 ^b
	Residual	.089	22	.004		
	Total	.650	26			

a. Dependent Variable: Ln_Kt

b. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.481	.100		-4.827	.000
	H/L	-19.863	3.993	-.968	-4.974	.000
	d/L	3.483	.887	.764	3.928	.001
	Vr/VI	.778	.521	2.253	1.493	.150
	Vr/Vs	-19.331	9.561	-3.051	-2.022	.056

a. Dependent Variable: Ln_Kt

$$Kt_{(S)} = 0.6183 e^{-19.863H/L + 3.483d/L + 0.778Vr/VI - 19.331Vr/Vs} ; R^2 = 0.86$$

Lampiran 2.

Hasil analisis regresi untuk parameter H/L, d/L, Vr/VI dan Vr/Vs terhadap koefisien refleksi (Kr) pada *submerged breakwater*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.901 ^a	.812	.778	.08354

a. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.663	4	.166	23.735	.000 ^b
	Residual	.154	22	.007		
	Total	.816	26			

a. Dependent Variable: Ln_Kr

b. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.488	.131		-18.992	.000
	H/L	21.237	5.252	.924	4.044	.001
	d/L	-3.623	1.166	-.709	-3.107	.005
	Vr/VI	-1.639	.685	-4.240	-2.393	.026
	Vr/Vs	35.444	12.573	4.994	2.819	.010

a. Dependent Variable: Ln_Kr

$$Kr_{(S)} = 0.083 e^{21.237H/L - 3.623d/L - 1.639Vr/VI + 35.444Vr/Vs}; \quad R^2 = 0.81$$

Lampiran 3.

Hasil analisis regresi untuk parameter H/L, d/L, Vr/VI dan Vr/Vs terhadap koefisien disipasi (Kd) pada *submerged breakwater*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.934 ^a	.872	.848	.00373

a. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.002	4	.001	37.382	.000 ^b
	Residual	.000	22	.000		
	Total	.002	26			

a. Dependent Variable: Ln_Kd

b. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.114	.006		-19.448	.000
	H/L	.932	.234	.750	3.977	.001
	d/L	-.189	.052	-.683	-3.622	.002
	Vr/VI	-.089	.031	-4.245	-2.901	.008
	Vr/Vs	1.948	.561	5.078	3.472	.002

a. Dependent Variable: Ln_Kd

$$Kd_{(s)} = 0.893 e^{0.932H/L - 0.189d/L - 0.089Vr/VI + 1.948Vr/Vs} ; R^2 = 0.87$$

Lampiran 6.

Hasil analisis regresi untuk parameter H/L, d/L, Vr/VI dan Vr/Vs terhadap koefisien transmisi (Kt) pada *emerged breakwater*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.952 ^a	.907	.878	.05756

a. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.420	4	.105	31.699	.000 ^b
	Residual	.043	13	.003		
	Total	.463	17			

a. Dependent Variable: Ln_Kt

b. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.600	.141		-4.253	.001
	H/L	-22.635	7.875	-1.000	-2.874	.013
	d/L	5.322	2.130	.866	2.499	.027
	Vr/VI	.663	.617	1.860	1.075	.302
	Vr/Vs	-18.096	11.324	-2.763	-1.598	.134

a. Dependent Variable: Ln_Kt

$$Kt_{(E)} = 0.549 e^{-22.635H/L + 5.322d/L + 0.663Vr/VI - 18.096Vr/Vs}, R^2 = 0.91$$

Lampiran 7.

Hasil analisis regresi untuk parameter H/L, d/L, Vr/Vl dan Vr/Vs terhadap koefisien refleksi (Kr) pada *emerged breakwater*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.922 ^a	.850	.804	.06692

a. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/Vl

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.331	4	.083	18.452	.000 ^b
	Residual	.058	13	.004		
	Total	.389	17			

a. Dependent Variable: Ln_Kr

b. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/Vl

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.264	.164		-13.808	.000
	H/L	20.910	9.155	1.009	2.284	.040
	d/L	-4.508	2.476	-.800	-1.820	.092
	Vr/Vl	-1.455	.718	-4.453	-2.027	.064
	Vr/Vs	31.783	13.165	5.298	2.414	.031

a. Dependent Variable: Ln_Kr

$$Kr_{(E)} = 0.104 e^{20.910H/L - 4.508d/L - 1.455Vr/Vl + 31.783Vr/Vs}, R^2 = 0.85$$

Lampiran 8.

Hasil analisis regresi untuk parameter H/L, d/L, Vr/VI dan Vr/Vs terhadap koefisien disipasi (Kd) pada *emerged breakwater*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.971 ^a	.942	.924	.00209

a. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	4	.000	53.020	.000 ^b
	Residual	.000	13	.000		
	Total	.001	17			

a. Dependent Variable: Ln_Kd

b. Predictors: (Constant), Vr/Vs, d/L, H/L, Vr/VI

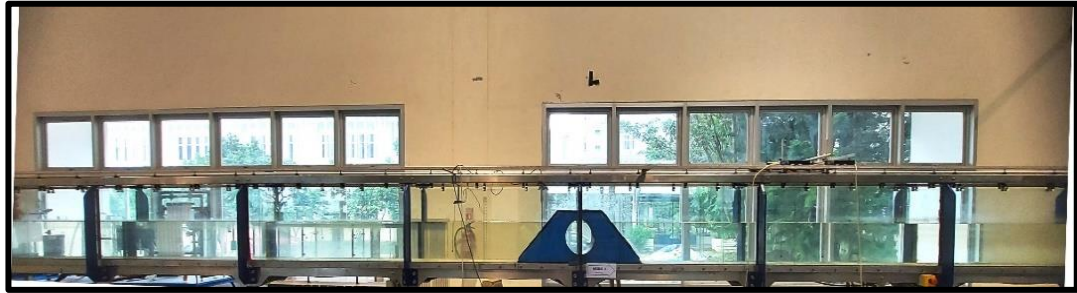
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.097	.005		-18.947	.000
	H/L	1.148	.286	1.099	4.008	.001
	d/L	-.277	.077	-.976	-3.575	.003
	Vr/VI	-.065	.022	-3.957	-2.901	.012
	Vr/Vs	1.470	.412	4.864	3.570	.003

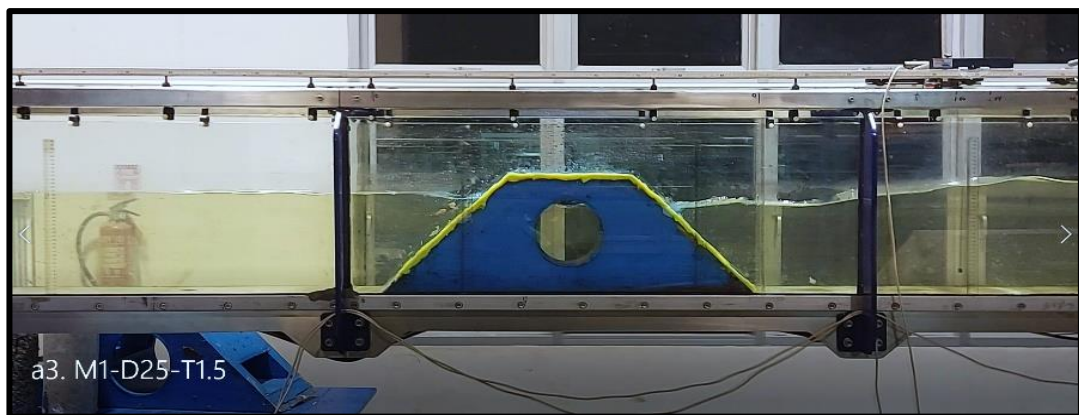
a. Dependent Variable: Ln_Kd

$$Kd_{(E)} = 0.907 e^{1.148H/L - 0.277d/L - 0.065Vr/VI + 1.470Vr/Vs}, \quad R^2 = 0.94$$

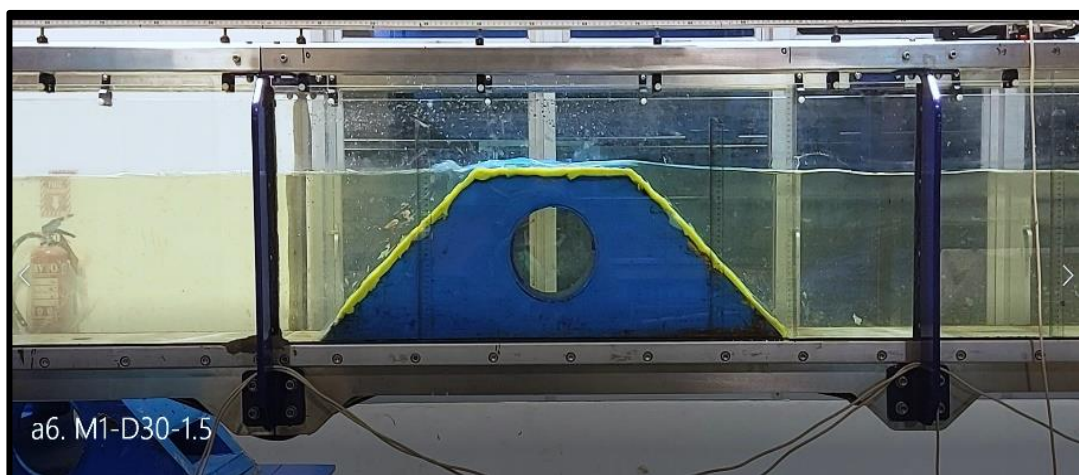
Lampiran 9. Dokumentasi penelitian



Gambar model dalam wave flume

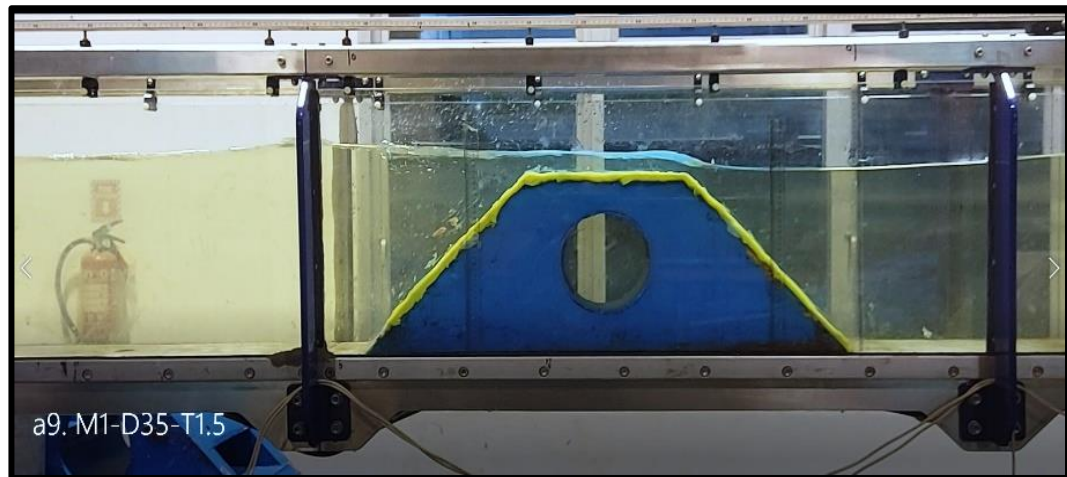


Gambar uji model dengan kedalaman air 25 cm

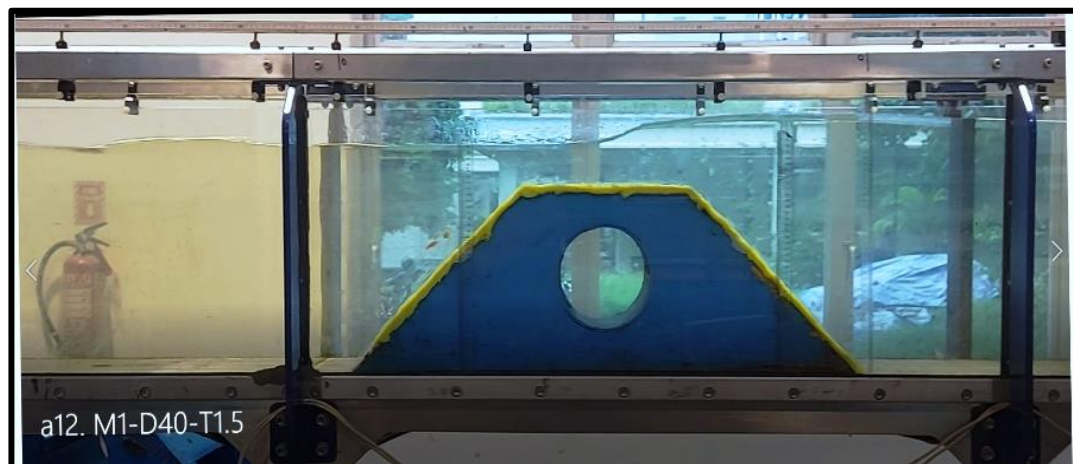


Gambar uji model dengan kedalaman air 30 cm

Lampiran 10. Dokumentasi penelitian



Gambar uji model dengan kedalaman air 35 cm



Gambar uji model dengan kedalaman air 40 cm



Gambar Pemasangan wave probe dan model