

**SUBMERGED WAVE BREAKER AS A COUNTER-EFFECT ON  
OCEAN WAVE ENERGY**

**FARID AZAMUDDIN BIN ZAINAL AZAM**

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## ABSTRACT

The intention of this research is to study the energy of ocean wave that harmful to coast and people, and produce a structure to make the wave breaks further away from the coastal region. To conduct the experiment on relationship between height of submerged wave breaker affecting the wave energy, the construction of narrow wave tank is necessary. The size ratio for this experiment to the real size is 1:45.45. The still water level in the narrow wave tank was scaled for 15 m depth at sea water level. The concrete blocks were arranged to several heights such as 10, 17.5, 20, 22.5, 25, 27.5 and 30 cm and each height of the wave breaker represents the actual height for the wave breaker at sea as 4.55, 7.95, 9.09, 10.23, 11.36, 12.5, 13.64 m respectively. The wave energy is found to decrease when the height of the submerged wave breaker increased. As the experiment was conducted, the chosen height is  $25 \times 10^{-2} \text{ m}$ . It is because, at this height of the submersible wave breaker, the energies for weak and strong waves are decreasing simultaneously between frequencies 2.5 and 4.0 Hz. The maximum actual size for the height of the submersible wave breaker is 11.36 m at depth of sea water level 15 m.

## **TABLE OF CONTENTS**

<b>CONTENTS</b>	<b>PAGE</b>
<b>ACKNOWLEDGEMENTS</b>	iii
<b>TABLE OF CONTENTS</b>	iv
<b>LIST OF TABLES</b>	v
<b>LIST OF FIGURES</b>	vi
<b>LIST OF ABBREVIATIONS</b>	vii
<b>ABSTRACT</b>	viii
<b>ABSTRAK</b>	ix
 <b>CHAPTER 1 INTRODUCTION</b>	
1.1 Background and problem statement	1
1.2 Significance of study	4
1.3 Objectives of study	5
 <b>CHAPTER 2 LITERATURE REVIEW</b>	
2.1 Ocean wave and its energy	6
2.2 Wave characteristics	8
2.3 Wave energy	9
2.4 Wave breaking	10
 <b>CHAPTER 3 METHODOLOGY</b>	
3.1 Background	11
3.2 Method	11
3.3 Construction of the wave tank	12
3.4 Conducting the experiment	17
3.5 Calculation method	18
 <b>CHAPTER 4 RESULTS AND DISCUSSIONS</b>	
4.1 Introduction	20
4.2 Collected Data	20
4.3 Calculation	23
 <b>CHAPTER 5 CONCLUSION AND RECOMMENDATIONS</b>	
5.1 Conclusion	31
5.2 Recommendations	32
 <b>CITED REFERENCES</b>	33
<b>APPENDICES</b>	34
<b>CURRICULUM VITAE</b>	38

## LIST OF TABLES

TABLE	CAPTION	PAGE
1	Change in wavelengths and amplitudes for weak waves due to heights of the wave breaker	21
2	Change in wavelengths and amplitudes for strong waves due to heights of the wave breaker	22
3	Change in wave energies for frequency 2.5 Hz for weak waves	24
4	Change in wave energies for frequency 4.0 Hz for weak waves	24
5	Change in wave energies for frequency 2.5 Hz for strong waves	25
6	Change in wave energies for frequency 4.0 Hz for strong waves	25

## LIST OF FIGURES

FIGURE	CAPTION	PAGE
1	A slinky wave	1
2	Basic parameters of a monochromatic propagating wave	3
3	Pantai Tok Jembal, Kuala Nerus, Terengganu	4
4	Pantai Teluk Lipat, Dungun, Terengganu	5
5	Wave depth propagation	7
6	Change in orbital motion of water particles	8
7	Sketch illustration of the experimental setup	13
8	Assembling process	14
9	Fibre glass coating on the inside to avoid leakage	14
10	Varnish coating on the outside and assembling the Perspex	15
11	Apparatus was setup to conduct experiment	15
12	Block 1 - $10 \times 12.5 \times 2.5 (\times 10^{-2}m)$	16
13	Block 2 - $10 \times 12.5 \times 7.5 (\times 10^{-2}m)$	16
14	Block 3 - $10 \times 21 \times 6.5 (\times 10^{-2}m)$	17
15	Wave energy loss for weak waves	26
16	Wave energy loss for strong waves	26
17	Percentage of wave energy loss for weak waves	28
18	Percentage of wave energy loss for strong waves	28
19	Tetrapod concrete	30
20	Example of the arrangement of the tetrapod concrete	30