

**APLIKASI MATEMATIKA INTEGRASI NUMERIK UNTUK MENGHITUNG
AMPLITUDO GELOMBANG MENURUT PERUBAHAN PANJANG GELOMBANG:
SUATU TINJAUAN KHUSUS ATAS KASUS *PROTOTYPE* (PEMODELAN
SEDERHANA) PERAMBATAN GELOMBANG TSUNAMI**

Yudha Herlambang

Jurusan Teknik Informatika, Fakultas Teknik, Universitas Trunojoyo Madura
Jl. Raya Telang PO. BOX 2 Kamal, Bangkalan, Madura
email : NGUMARSB@indosat.net.id

Abstract

In this paper, the author will discuss about how to estimate the Magnitude of Amplitude from the ocean waves caused by tsunami motion in the mini prototype. In this case, the author will prove the phenomenon below : if the ocean transversal wave caused by tsunami move to the beach, the wavelength will be decreased, but the wave Amplitude will be increased respectively. The author will calculate by approaching Calculus, precisely the Arc Length Calculation. This paper also considered the application of Numerical Integration by using Simpson Integration Method to solve the calculation of special case Integration. In the last part, the author will enclosure the listing program by using Fortran Language belonged to the algorithm of Numerical Integration Simpson Method.

Keywords: *Magnitude, Amplitude, Arc Length , Numerical Integration Simpson Method , Fortran Language.*