TRANSPORTASI SEDIMEN BED LOAD DAN SUSPENDED LOAD AKIBAT PERGERAKAN GELOMBANG ASIMETRI

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ABSTRAK

Dalam tugas akhir ini akan meninjau efek kenonlinearan gelombang asimetri yang ditunjukan oleh variabel Ni dan perbedaan ukuran butiran sedimen (d50) terhadap perubahan laju transportasi sedimen *bed load* maupun *suspended load*.Variasi nilai Ni disesuaikan dengan kondisi atau batasan yang digunakan yaitu (0.67),(0.6),dan (0.58).Data yang digunakan merupakan *orbital velocity* dari gelombang knoidal pada penelitian Suntoyo dan Tanaka (2009). Formula tegangan geser diperlukan dalam menghitung laju transportasi sedimen. Penentuan metode tegangan geser yang tepat akan meningkatkan keakuratan dalam menghitung laju transportasi sedimen akibat gelombang asimetri. Dari hasil perhitungan laju transportasi *bed load* dan *suspended load* dapat diketahui bahwa pengaruh variasi kenonlinearan (Ni) sebanding dengan perubahan laju transportasi dan berbanding terbalik dengan ukuran butiran sedimen (d50)

Kata Kunci : *bedload, suspended load, gelombang asimetri*

SEDIMENT TRANSPORT BED LOAD DAN SUSPENDED LOAD UNDER ASIMETRY WAVE

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ABSTRACT

In this final project will review the effect nonlinear of wave asymmetry indicated by the variable Ni and the difference in grain size of sediments (d50) to changes in the rate of transport of sediment bed load and suspended load.Variations in the value of Ni is adapted to the conditions or limitations which used, (0.67), (0.6), and (0.58). Data used is the orbital velocity of the wave knoidal on research Suntoyo and Tanaka (2009). Formula of shear stress needed in calculating the rate of sediment transport. The determination of the appropriate method of shear stress will improve accuracy in calculating the rate of sediment transport due to waves of asymmetry. From the results of the calculation of the rate of transport of bed load and suspended load may note that the influence of the variation of variabel (Ni) is proportional to the rate of change of transport and inversely proportional to the sediment grain size (d50)

Keywords : *bedload, suspended load ,asymetry waves*