



## *Numerical Modeling Of Scouring Around The Trio Of Cylindrical Piles Under The Sea Currents*

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### **Abstract**

*Accurate solutions to current and prediction local scour around pier requires details understanding of current pattern around piers. the governing equations of the current can solve with perfect vision of current, This current field become fully modeled. The exact method for estimation local scour around these structures can obtain with associated sediment transport equations, and relying on dramatical advances of (CFD). In this research development of the scour process around piles group with different layout satudy by using of fluent numerical model that solve navier\_stokes three\_dimensional equations for current in association with turbulence model  $k_\epsilon$  Finite velume method was used for discreteness this equations and fluid velume model was used for modeling of free level. Change in bed was obtained for solving contituity equation cells near the bed. Scour around piles group can be modeled by taking transported current condition and solving simultaneously current and deposition calculation.[1]*

### **Introduction**

*creation and development scour at piers is the main causes of damages and destruction of them. Prediction of creation procedure final condition of the scour hole is the main causes of the hydraulic design of beridges. Since local scour issues considers as an important problem in hydraulic engineering, local scouring studies physical modeling that conducted under simplify labratory. Estimation of maximum scour depth is achieved by multiple epuations. most of this obtained studies and epuation have simple geometric shapes for piers . scouring in pile group and piers with complex geometries shapes have been studied less. Utilization obtained epuation based on physical model studies in real sample have problem particulary in peirs with complex geometry that have current pattern, Often do not provide stisfatory results Panchang and Richardson (1998). Comparison field measurments of scour depth with the result*