

Experimental investigations for the effects of single groin roundhead on erosion and sedimentation of sandy bed subject to long shore currents

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Abstract

The shallow parts of the coastal zone are usually affected by strong flow parallel to the coast lines. Thus, the bed morphology of these areas is subjected to permanent changes and engineering treatment is essential for controlling bed erosion and sedimentation. In this work, laboratory experiments are performed to investigate the effects of spur dikes end shape (which are located perpendicular to the shore line in shallow continental shelves) on formation of flow pattern and scouring due to strong parallel shore currents. To achieve this goal, the effects of single spur dike which covers about thirteen percent of the continental shelf are studied. The three spur dike end shapes of rectangular, trapezoidal and semicircular are studied in present work. The measurements on velocity patterns and morphology changes of a sandy bed around the spur dike in a laboratory model are utilized to get general idea of spur dike end shape effects.

Keywords: *Spur Dike End Shape, Morphology Changes, Continental Shelves, Sandy Bed, Parallel Shore Flow*
