

عنوان مقاله:

Boundary-layer separation zone evaluation around gravel fixed dunes using ADV and PIV Techniques

محل انتشار:

کنفرانس بین المللی مهندسی و علوم کاربردی (سال: 1394)

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خلاصه مقاله:

This research presents recent advances on morphodynamic modeling over gravel dunes. Boundary-layer separation over gravel fixed dunes is investigated by Particle Image Velocimetry (PIV) and Acoustic Doppler Velocimetry (ADV). Using the measurements of flow over dunes for different conditions at laboratory scale, advantages of PIV application are investigated for the flow pattern in the lee angle of 38 degree. To compare the experimental results with numerical models over dunes, the 3D numerical model (SSIIM) is applied in this study. The results reveal that the numerical model successfully simulate flow over dune in compared with PIV data. Although ADV application near the bed indicates weak performance for high discharge and low water depth, IV results present more agreement with the numerical model in this region.

کلمات کلیدی:

Dune, Lee Angle, ADV, PIV, Separation Zone

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