

The Effect of Soil Surface Slope on Splash Distribution under Water Drop Impact

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Abstract : The effects of down slope steepness on soil splash distribution under a water drop impact have been investigated in this study. The equipment used are the burette to simulate a water drop, a splash cup filled with sandy soil which forms the source area and a splash board to collect the ejected particles. The results found in this study have shown that the apparent mass increased with increasing downslope angle following a linear regression equation with high coefficient of determination. In the same way, the radial soil splash distribution over the distance has been analyzed statistically, and an exponential function was the best fit of the relationship for the different slope angles. The curves and the regressions equations validate the well known FSDF and extend the theory of Van Dijk.

Keywords : splash distribution, water drop, slope steepness, soil detachment

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