



Aeolian sand ripples: experimental evidence of coarsening and saturation.

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There have been many theoretical works devoted to the formation of aeolian sand ripples but no experiment. They all predict i) an initial wavelength scaling as the reptation hop length which is independent of the wind speed and which scales on the grain diameter and ii) a coarsening process leading to an ever growing wavelength. We show from experiments in a wind tunnel as well as from field measurements that it is not the case. The initial wavelength turns out to increase linearly with the wind speed and the coarsening process stops after a relatively short time (few tens of minutes). The selection of the final wavelength and amplitude is discussed.