

Controls on the shape and size of Martian polar dunes

Serina Diniega*, Shane Byrne, and Karl Glasner

Many dune corridors appear to contain dunes of stable size and spacing, and dune fields often exhibit regular patterns with apparent characteristic size and spacing. It is still an open question as to what sets this characteristic scaling – local conditions such as topography or sand supply, or common dynamic processes such as those relating to saltation. Additionally, it is unknown whether the characteristic scaling is dependent on the initial dune size and spacing or on environmental conditions and dune interactions that vary in time and/or space. In current investigations, we aim to consider the effect of topography, including changing topography such as through the migration of a subsurface ice layer, on the evolution of dune shape and size.