

Aeolian bedforms and cimate on Mars

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Wind is the dominant agent of landscape modification on Mars, playing this role throughout much of the planet's history. Therefore, accurately characterizing the interaction between the atmosphere and the surface could provide insights into present and past Martian climates. Aeolian (wind-related) dunes and ripples (bedforms) are commonly used to infer current and paleo winds on Mars. This is key for validating atmospheric models and accurately interpreting local geology. Two main classes of aeolian bedforms have been identified from satellite imagery on Mars: large, active dark dunes, reaching up to 700 meters in spacing and 80 meters in height, and smaller, mostly inactive bright-toned dune-forms, with spacings ranging from 5 to 100 meters and heights from 1 to 14 meters. We will present results from different study areas, including the ESA ExoMars 2028/30 landing sites, where aeolian bedforms have been used to encode Martian climatic conditions at different spatial and temporal scales.

sessioni congresso

Sole e Sistema solare

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