Polygonal ridges in the Medusae Fossae on Mars and analogous features on Earth

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Polygonal ridges found on Mars are morphologically similar to desiccation cracks found in periglacial and other ephemeral sedimentary environments on Earth. Such ridges, with up to 50 m of relief, have been observed in areas of the Medusae Fossae nearest the Tharsis region, the largest volcanic region on mars. These ridges have been interpreted to have formed as a result of lava extruding into pre-existing cracks in surficial rock. However, the origin of the cracks themselves is thought to be related to thermal stress, much like the thermal stress that creates the "patterned ground" common in polar regions on Earth. This paper comprises a selective review of literature that will form the basis of a team project by junior undergraduate students. [Poster]

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