



Contribution ID: 127

Type: Oral

Fabrics in the Martian Shergottites: Implications for Emplacement on Mars

Martian meteorites are mostly igneous, with only one notable exception, which still contains igneous clasts. Within the igneous samples that have not undergone brecciation, crystallographic textures can be used to infer the environment of emplacement, such as is commonly applied to terrestrial igneous rocks. Such textures have already been used to deduce the igneous setting for the Martian nakhlite meteorites, and provided further information regarding the lava flow that the suite of nakhlites originated from (e.g. Daly et al., 2019).

Shergottites encompass a wide variety of petrologic textures, ranging from 'fine-grained' to poikilitic. Here, we focus on the 'fine-grained' and diabasic shergottites to investigate the presence or lack of crystallographic and shape alignments across six samples. At the meeting, we will present our findings in the context of the environment of emplacement of each sample on Mars.

Primary authors: Dr FORMAN, Lucy (Space Science and Technology Centre, School of Earth and Planetary Sciences, Curtin University); Mr ORR, Kenneth (Space Science and Technology Centre, School of Earth and Planetary Sciences, Curtin University); Prof. BENEDIX, Gretchen (Space Science and Technology Centre, School of Earth and Planetary Sciences, Curtin University); Dr DALY, Luke (University of Glasgow); Mr PATEL, Ravi (Space Science & Technology Centre, Curtin University)

Presenter: Dr FORMAN, Lucy (Space Science and Technology Centre, School of Earth and Planetary Sciences, Curtin University)