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*DeMo-Planet:
a new project to simulate shallow magma emplacement
in the fractured crust of terrestrial planetary bodies*

Dr Sam Poppe
Centrum Badań Kosmicznych Polskiej Akademii Nauk

[POSTER]

Magma emplacement processes on terrestrial planetary bodies other than Earth can only be investigated by observing surface deformation features or through analytical and numerical models. Whereas most common numerical models assume that shallow planetary crust deforms elastically, geological observations on Earth have highlighted the importance of non-elastic deformation. DeMo-Planet is a newly-funded project that aims to model the emplacement of higher-viscosity magma in shallow planetary crust using discontinuum host media in the Distinct Element Method (DEM). By combining field and remote sensing observations from laccolith intrusions in the Intra-Sudetic Syncline (Poland) and laboratory tests of mechanical rock properties with remote sensing observations of magmatic uplift features on the Moon and Mars, this project's outcome will progress our understanding of complex deformation processes during magma emplacement on the Earth, Moon and Mars.



JAGIELLONIAN UNIVERSITY
IN KRAKÓW

Faculty of Physics, Astronomy
and Applied Computer Science
Faculty of Geography and Geology