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# Pierwsze Ogólnopolskie Seminarium Marsjańskie

## *Active magmatism in Tharsis on Mars*

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[POSTER]

Vanishing magnetic field and the absence of plate motion led us believe the Martian core have solidified too early to sustain late magmatism. However, young volcanic rocks (2.4-250 Ma) are ubiquitous on the Mars surface and atmospheric CO<sub>2</sub> isotopic signatures indicate recent volcanic degassing. Here, we provide evidence for active magma chambers on Mars. We modelled magma fluxes in the two largest Martian igneous provinces, Tharsis and Elysium, and found the largest volcanoes of Tharsis still to erupt ~150 km<sup>3</sup>/Myr on a long term. We predict the largest active magma reservoirs to feed Olympus Mons and the Tharsis Montes, which with the current volcanic dormancy implies ongoing hydrothermal activity. Active hydrothermal gases would be consistent with inferences from the Thermal Emission Spectrometer and could be sporadically identified by the Trace Gas Orbiter spectrometers of ExoMars in the future.