



Amazonian Chronology of Arsia Mons and Southeast Tharsis

MSc Pierre-Antoine Tesson

Space Research Centre PAS

[PRESENTATION]

Arsia Mons is the southernmost shield volcano of the Tharsis Montes. Previous study found ash-deposits north of the caldera indicating episodes of explosive activity. Effusive episodes in the form of lava flows located within the caldera and in the southern lava apron, show transition away from explosive activity at 200 Ma. Here we investigate a set of fresh-looking lava flows located SE of Arsia Mons in order to constrain its late Amazonian chronology. We performed geological mapping and impact crater retention age derivation. The obtained ages range from 200 Ma to 50 Ma, with an apparent peak at 150 Ma. These ages correlates with the ones found within the caldera. Morphology of lava flows indicate magma of mafic composition. Our results confirm that after effusive volcanism resumed, activity at Arsia Mons was not restricted to the caldera or the main flanks. Future work will focus on studying the relationship between these lava flows, the ash deposits and older underlying lava fields.