



*The search for ongoing surface deformations  
in Noctis Labyrinthus, Mars*

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[PRESENTATION]

The growing number of findings related to current and past seismic activity on Mars calls for studies on the ongoing surface deformations and the potential impact of seismic events on landscape evolution. For that reason, we applied an optical correlation of > 100 High-Resolution Imaging Science Experiment (HiRISE) images from time span 2006-2017, focusing on several chosen areas of the Noctis Labyrinthus to search for any evidence of current surface deformation. The results show some activity produced by wind (dune movements and overburden of some areas with sand), meteorite impacts (impact crater development), and mass movement processes (landslide reactivation), etc. Even though, we found several examples of current surface deformation on Mars, it is unlikely that we have observed any coseismic displacement. This could be related to small-scale magnitudes of marsquakes, short time period of observations, not sufficient image resolution, etc.