

Analysis of Venus' topography, geoid and other orbital measurements pinpoints two regions considerably different from their surroundings. Regions are Ishtar Terra and western parts of Aphrodite Terra. These regions are notably older, composed from non-basaltic rocks, show far less volcanic activity and relatively low admittance. One of hypotheses explaining such differences is that these regions are ancient continents and their surroundings were at one point flooded with basaltic magma. In this work we carry out series of numerical experiments and show that it is possible if we consider there is a thick, highly viscous lithosphere and thick crust. In parts of this work we also consider possibility, that some other regions (Tellus Regio, Imdr Regio) are hilltops of ancient continents, that were completely sunk by the basaltic flood, but after comparison with measured data from Venus we show it is not the case.