

Thursday, March 13, 2008

VENUS: RESURFACING AND TOPOGRAPHY (WITH PANCAKES!)

3:30 p.m. Amphitheater

Chairs: V. L. Hansen
L. S. Glaze

- 3:30 p.m. Hansen V. L. * López I.
Venus: No Catastrophic Resurfacing, No Plate Tectonics, But a Rich Ancient History — Results from Global Ribbon Tessera Terrain Mapping [#1644]
A global map of ribbon tessera terrain (rtt) shows: rtt covers ~18% of Venus; distinct rtt suites “defined by tectonic fabric” cover millions of km², and show crosscutting relations, forming the basis for a global-scale (relative) ancient timescale.
- 3:45 p.m. Ivanov M. A. * Head J. W. III Basilevsky A. T.
The History of Topography of Venus [#1073]
This work is based on the results of global geologic mapping of Venus. Comparison of the areal, altimetric, and age distributions of the mapped units suggests that most of the current topography dates from the first 5–20% of the observable history of Venus.
- 4:00 p.m. Romeo I. * Turcotte D. L.
Pulsating Continents on Venus [#1408]
We suggest that tessera terrains, forming both crustal plateaus and tessera inliers, represent venusian continental crust. Continents on Venus would suffer cyclic compressional and extensional events driving by the periodic global subduction events.
- 4:15 p.m. Basilevsky A. T. * Aittola M. Raitala J. Head J. W. III
Venus: Estimates of Absolute Time Duration of Astra-Novae Activity [#1055]
For seven of 78 known astra (novae) it was possible to estimate the duration of their geologic activity from the older phases of their tectonism through their younger ones. It was found that the activity lasted for several hundred million years.
- 4:30 p.m. Bjonnes E. E. * Hansen V. L. Swenson J. B.
Results of Equilibrium Resurfacing Monte Carlo Models on Venus [#2410]
Previous equilibrium resurfacing tests failed to include increments between 10 and 0.03%. We tested this parameter space and found that there is no statistical evidence that equilibrium resurfacing cannot meet the two key observations of Venus’ impact crater data set.
- 4:45 p.m. Gleason A. L. * Herrick R. R. Byrnes J. M.
Steep Sided Domes on Venus: A Re-Evaluation of Morphologies and Emplacement Mechanisms [#1863]
This study presents work being done regarding the steep sided domes on Venus using high resolution stereo data. Our stereo analysis highlights the variation within the dome population regarding their morphologies and has resolved surface features.
- 5:00 p.m. Glaze L. S. * Baloga S. M. Stofan E. R.
A New Approach to Inferences for Pancake Domes on Venus [#1326]
Using an innovative perturbation solution to the radial formulation of the Boussinesq equation for fluid flow that neutralizes known singularities, we infer that the topography of Venus pancake domes is consistent with a bulk Newtonian rheology.