

## VENUS HIGHLANDS-PLAINS RELATIONSHIPS: TECTONICS IN WESTERN APHRODITE

R. Stephen Saunders (Jet Propulsion Laboratory, California Institute of Technology, 4800 Oak Grove Drive, Pasadena, CA 91109)

Plains materials interpreted to be composed of flood basalts lap onto the equatorial highlands of Western Aphrodite Regio. Systematic geologic mapping of the Ovda region using the Magellan global data (radar images, altimetry and gravity) has revealed that the contacts between highlands and plains have been tilted up toward the highlands following plains emplacement. Analysis of the western part of Ovda Regio shows that the northern contact occurs at an average radius of 6053.8 km and the mean plains elevation 500 km to the north of the contact is at a radius of 6052.0 km, indicating that the boundary position has changed by nearly 2 km. Models under consideration include post plains-emplacement uplift of the highlands or relative sinking of the plains. Isostatic mechanisms are likely in either case. Although complex structural models for the plains-highland margin are possible, simple structural models in which plains were emplaced as a nearly level geoidal surface and subsequently the highlands of Ovda were uplifted relative to the plains. Initial mapping is focused on 1:5,000,000 scale, and is integrating observations of surface characteristics and geophysical inferences drawn from topography and gravity.

1. R. Stephen Saunders  
Mail Stop 183-335  
Jet Propulsion Laboratory  
4800 Oak Grove Drive  
Pasadena, CA 91109

Phone: 818354 2867  
Fax: 8183936540  
email: saunders@scn1.jpl.nasa.gov

2. Session PS2
3. Conveners: Peter Janle, Alexander T. Basilevsky
4. Standard facilities are ok.
5. Oral presentation