



# Characterizing landing site safety on Venus using Venera panoramas and Magellan radar properties

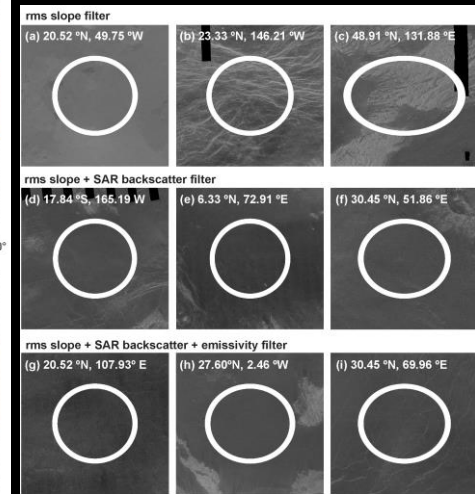
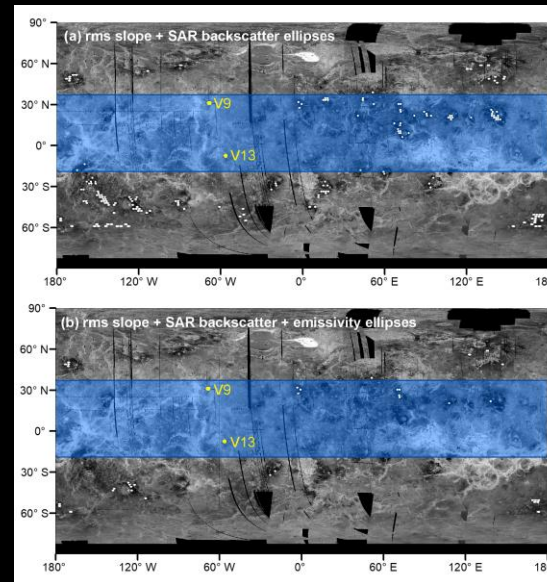
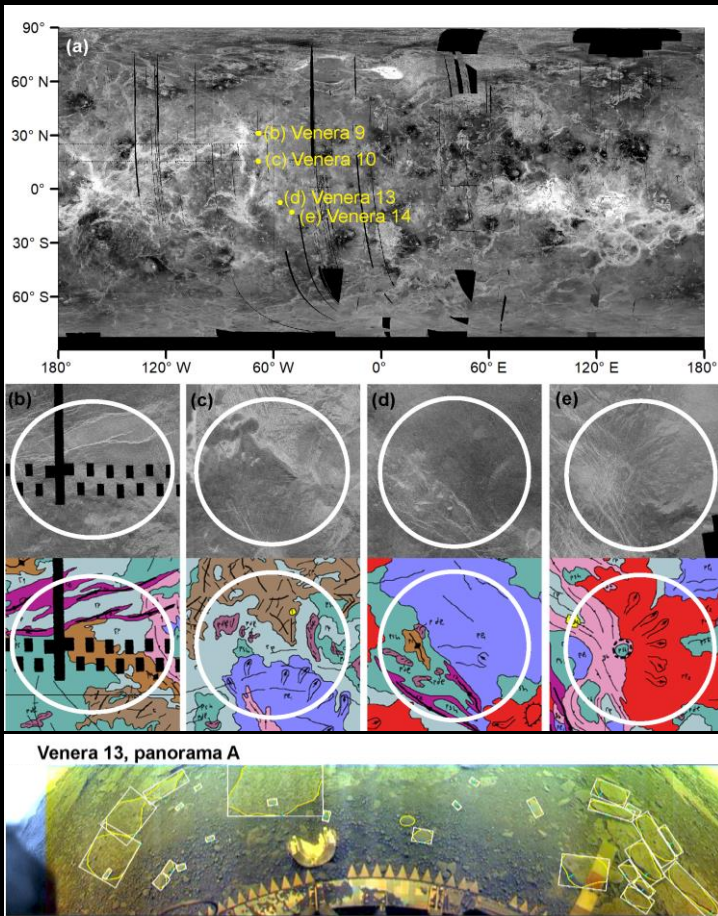
J. Rabinovitch<sup>1\*</sup>, K. M. Stack<sup>1</sup>

<sup>1</sup>Jet Propulsion Laboratory, California Institute of Technology

\*Current Affiliation: Stevens Institute of Technology



## Venus Exploration Analysis Group Science Nugget



A global filter is applied to the surface of Venus that identifies landing ellipses with similar radar properties identified in the  $rp_2$  region of the Venera 13 landing area (based on Magellan data). The resulting ellipses are shown above, and the new algorithm introduced in this work identifies radar-dark, generally featureless ellipses that would maximize landing success for future missions to the surface of Venus!

The  $rp_2$  region (as mapped by Ivanov and Head 2011) of the Venera 13 landing area (purple, ellipse d above) is characterized as a “safe” area for a future Venus lander mission to land.

Citation: J. Rabinovitch, K.M. Stack, *Characterizing landing site safety on Venus using Venera panoramas and Magellan radar properties*, *Icarus*, Volume 363, 2021, 114429, <https://doi.org/10.1016/j.icarus.2021.114429>.