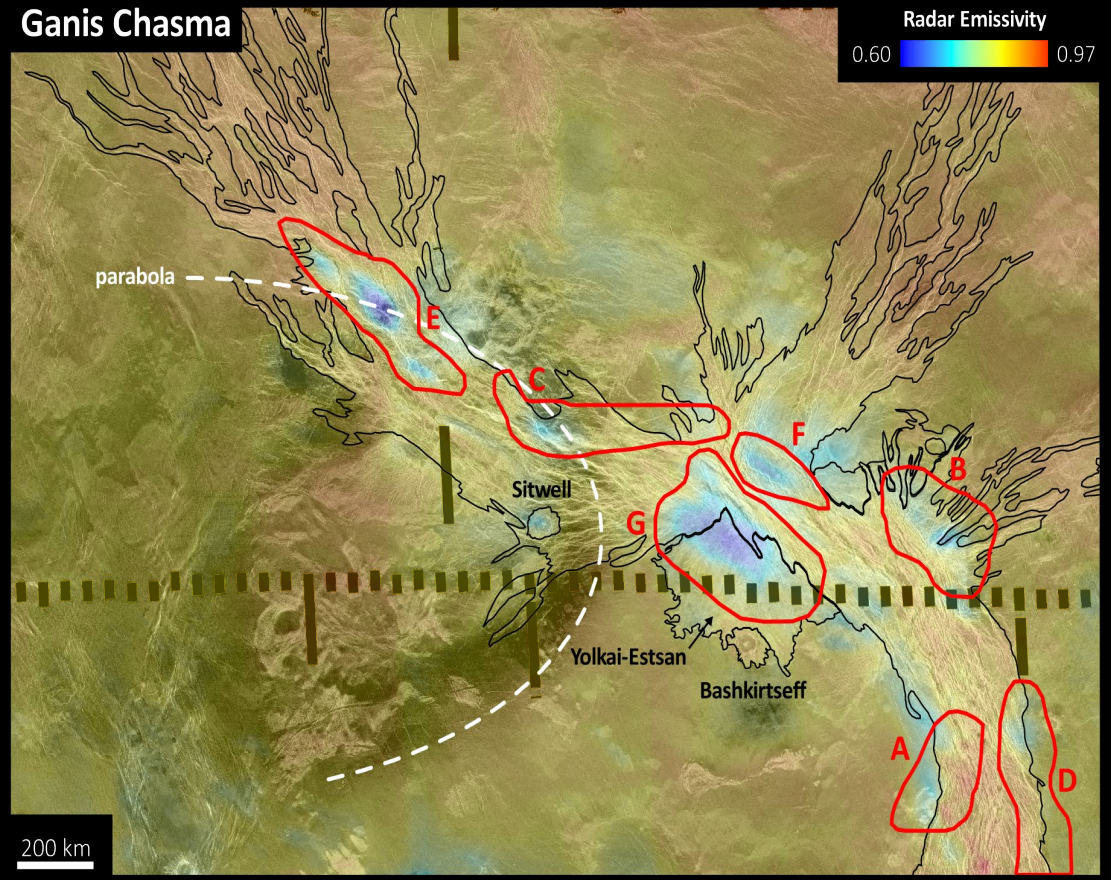
Extended Rift-Associated Volcanism in Ganis Chasma, Venus

Radar anomalies in Ganis Chasma correspond to transient bright spots seen in infrared data, and suggest recent – perhaps current – rift-associated volcanism in the region.



Ganis Chasma (near Atla Regio) through Magellan emissivity over SAR imagery, and the seven sites of interest initially defined by Venus Express / VMC observations.

- **Problem: A major outstanding question is whether Venus is still volcanically active today.**
- **What did we do?** We characterized the variations in (Magellan) radar emissivity with altitude in Ganis Chasma rift-zone (192°E, 18°N), where infrared data (VEx) previously reported freshly erupted lava flows.
- **What did we find?** Some sites of interest display radar emissivity values consistent with relatively young and unweathered materials.
- **Implications:** Ganis Chasma makes an valuable target area for upcoming missions (i.e., VERITAS, DAVINCI, EnVision etc.) to search for evidences of present-day volcanic and tectonic activities on Venus.

Brossier, Gilmore and Head (2022) GRL [https://doi.org/10.1029/2022GL099765]