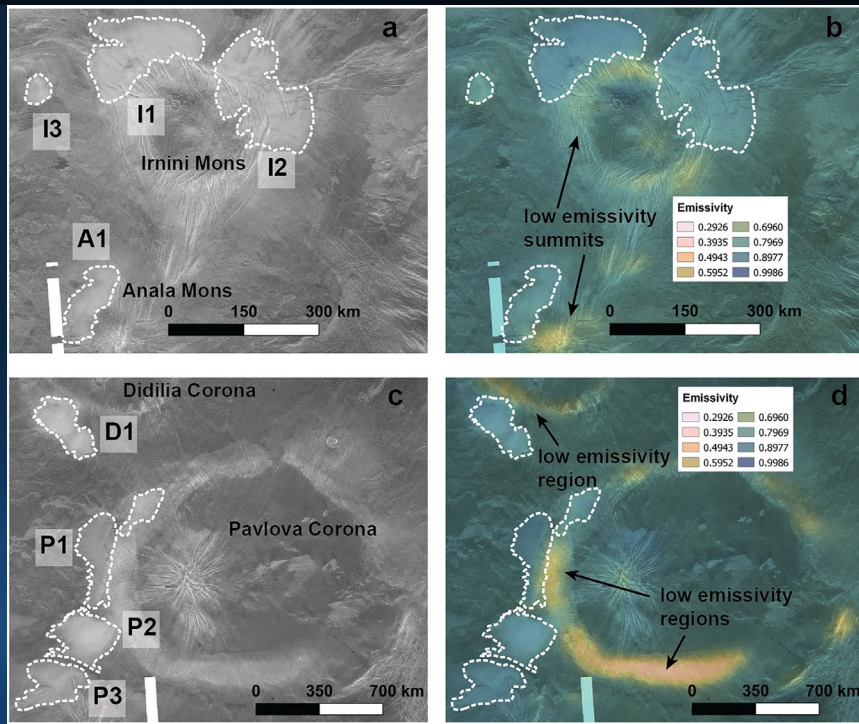


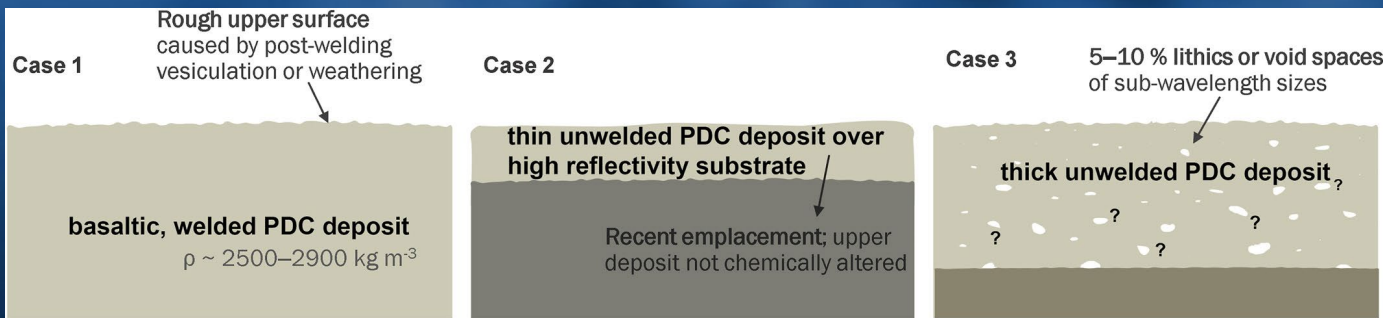
Radar Backscatter and Emissivity Models of Proposed Pyroclastic Density Current Deposits on Venus

Radar signatures of possible pyroclastic deposits on Venus show they are similar to welded mafic ignimbrites.

- Many proposed pyroclastic deposits on Venus show unique morphology and radar properties. We used a suite of radar backscatter and emission models to link their radar properties to physical characteristics and shallow subsurface structure.



Magellan backscatter (left) & emissivity map (right) showing proposed PDC deposits outlined in white



Schematic of deposit structures inferred from the model results

- Our results show that these deposits have high bulk density similar to welded pyroclastic deposits on Earth. This suggests that **pyroclastic flows on Venus remain hot enough during emplacement to allow welding to happen.**