

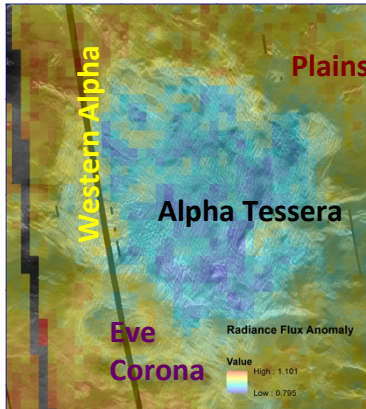


VIRTIS Emissivity of Alpha Regio, Venus, with Implications for Tessera Composition

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VIRTIS 1 μm emissivity of Alpha tessera is lower than the plains and deformed plains of W. Alpha. The lower flux is thus independent of macroscale roughness, elevation, or local conditions. The emissivity values are consistent with felsic minerals and rock weathering products.

Implications:

Tesserae record an extinct geodynamic regime

- Tesserae are true granites formed via plate recycling of (ancient) surface water,
- OR, tesserae are granites or anorthosites formed via the collection and preservation copious amounts of partial melts of basalts from the pre-plains era.

Tesserae record an extinct weathering regime

- Sulfates, phyllosilicates or carbonates formed via weathering of rock under a higher $P_{\text{H}_2\text{O}}$ atmosphere, such as that envisioned to accompany global plains emplacement.

