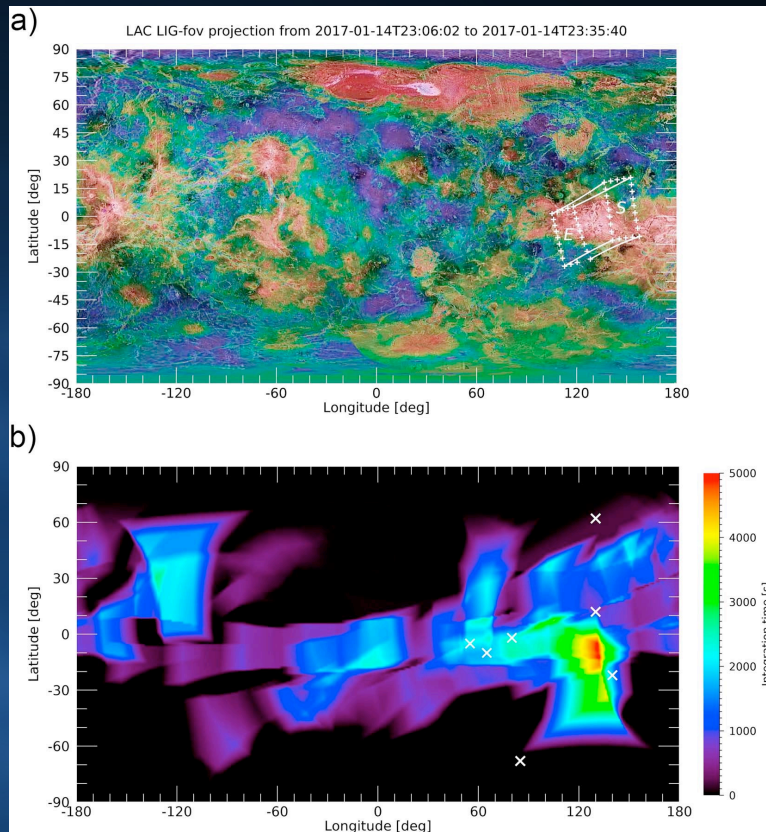


Absence of Observed Lightning on Venus

The search for lightning on Venus is still inconclusive even after dedicated observations by the spacecraft currently in orbit.

- JAXA's Akatsuki spacecraft has a dedicated Lightning and Airglow Camera (LAC), which in the 3 years it has been in orbit has made 42 observations totaling >18 hours when in the best configuration for observations.
- Not a single unambiguous flash has been detected, whereas hundreds or thousands would have been detected at Earth.
- This result could indicate a very low flash rate or lightning that is highly clustered in space and/or time, or that prior claims to detect lightning on Venus may have been spurious.



(a) An example observation, with change to the start (S) to the end (E) of the observation in the spacecraft-Venus distance and the instrument footprint (denoted by asterisks) indicate the edges/corners of the LIG part of the LAC sensor. (b) The aggregated observation time as a function of location. The white crosses denote the approximate positions of the flashes recorded previously.

Lorenz et al. (2019) *Geophysical Research Letters*.