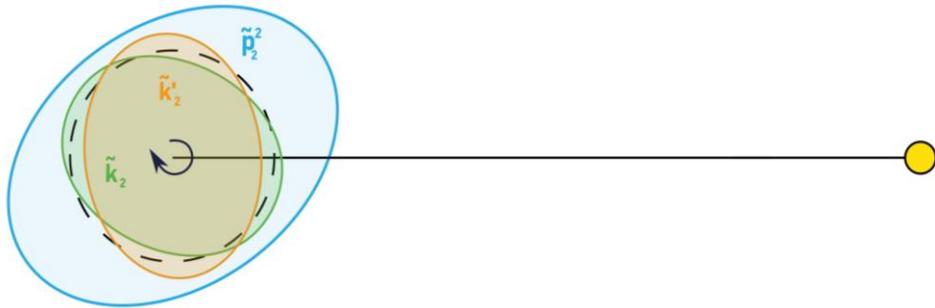
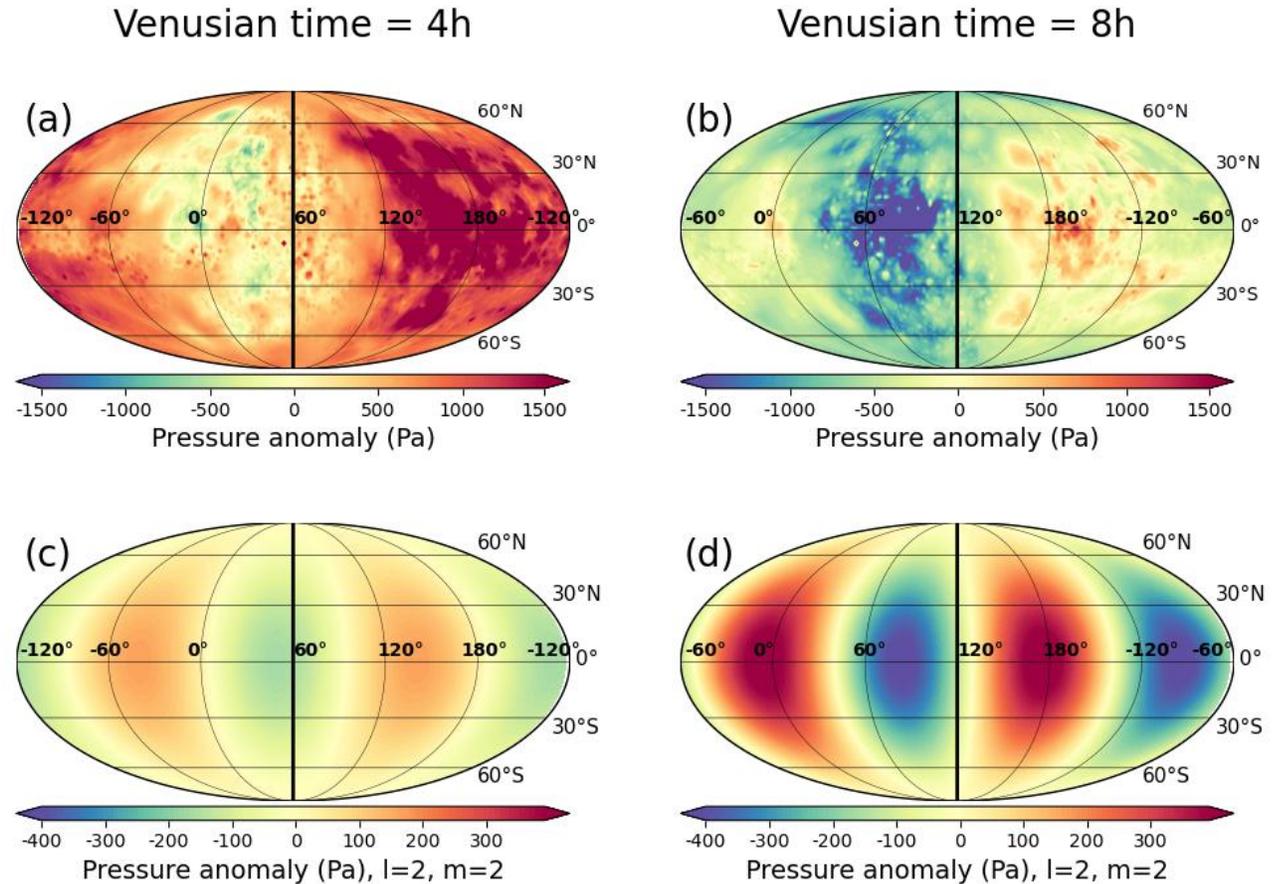


The viscosity of Venus' mantle inferred from its rotational state

1. Using a global climate model simulation, we estimated the atmospheric thermal torque.
2. The deep mantle viscosity of Venus must be an order of magnitude lower than on Earth.
3. Tides are not sufficient to despin Venus from an initial rotation period shorter than 1 day.



Schematic representation of the degree 2 of all of the tidal effects affecting Venus' rotation.



(a-b) Surface pressure anomaly field at two different time over one Venusian solar day. (c-d) Degree and order 2 term of the spherical harmonics expansion.

Musseau, Y., Tobie, G., Dumoulin, C., Gillmann, C., Revol, A., Bolmont, E., The viscosity of Venus' mantle inferred from its rotational state, Icarus 422, 2024