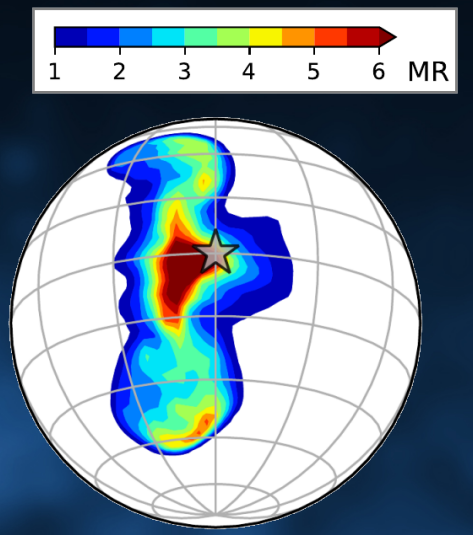
# Airglow and Shocks Revealed in the Upper Atmosphere of Venus

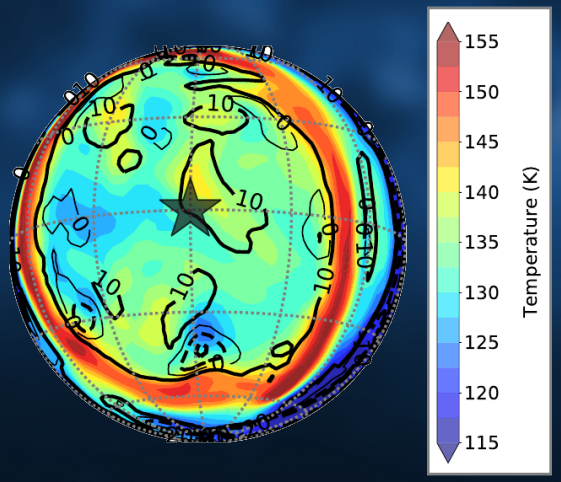
- **New developments in a state-of-the-art 3-D Climate Model explain atmospheric patterns of airglow and predict a planetary-scale supersonic shock in the upper atmosphere of Venus.**

- The UV atomic oxygen dayglow is modulated by a 5-days cloud-level Kelvin wave.

- The recombined molecular oxygen, responsible for the IR nightglow, is also modulated and periodically ejected at high latitude, explaining its observations (top figure).

- The day-to-night supersonic winds in the thermosphere produce a 10,000 km ring shock past the terminator (bottom figure), considerably enhancing variability on the nightside.




**Navarro et al., 2021, Icarus, 114400**
**Gilli et al., 2021, Icarus, 114432**