Venus’s Y feature as a wind distorted wave

What is the Venus “Y” feature??

In the 1960s, a huge dark cloud structure was first observed on Venus through ultraviolet images. This feature with the shape of a “Y” has been observed for many decades of spatial missions, and it has been interpreted to be a WAVE.

The “Y” propagates to the west and circles the planet about every 4 days. It has been recently discovered that where the “Y” is dark this wave “pushes” Venus winds to the west (red color), and where the cloud is bright the wave pushes the wind in the opposite sense (blue).

A new type of wave distorted by Venus winds

For the Earth it takes 24 hours to complete a rotation, while Venus is much slower. As a result, the atmospheric circulation in both planets is so different.

We have deduced a new type of equatorial wave that only appears in planets of slow rotation like Venus.

- This wave brings up an ultraviolet absorber commonly thought to exist below, and concentrates it at the cloud tops. This is why we see dark regions in UV images of the “Y”.
- After being created, the wave becomes gradually distorted by the winds and adopts the “Y” shape until it is finally dissipated, matching the images from NASA’s Pioneer Venus mission.