

## **Glowing with Excitement! Venus' unique Proton Aurora**

Due to their proximity to the Sun and lack of magnetic shielding, the Venusian and Martian atmospheres are strongly affected by solar variability and space weather events, which has important consequences for atmospheric evolution. Venus presents us with an ideal laboratory to study these interactions because, unlike Mars, Venus is purely unmagnetized. In addition, its thicker atmosphere and closer proximity to the Sun means that atmospheric variability due to solar events is typically more pronounced. The presence of aurora is an important manifestation and tracer of the interaction between the solar wind and a planetary ionosphere. The OI (1S-1D) 557.7 nm (oxygen green line) is a bright auroral line in the terrestrial atmosphere and is detected on the Venusian nightside after major solar storms as a diffuse, global aurora. It has been proposed that the Venusian green line is a proton aurora generated when  $> 70$  keV protons are deposited low in the ionosphere. I present results from ground-based and space-data observations which supports the idea that the Venusian oxygen green line is a unique global diffuse proton aurora.

**Thursday, January 27th**

4:00-5:00 p.m.

See website for Zoom details

**Candace Gray**

New Mexico State University