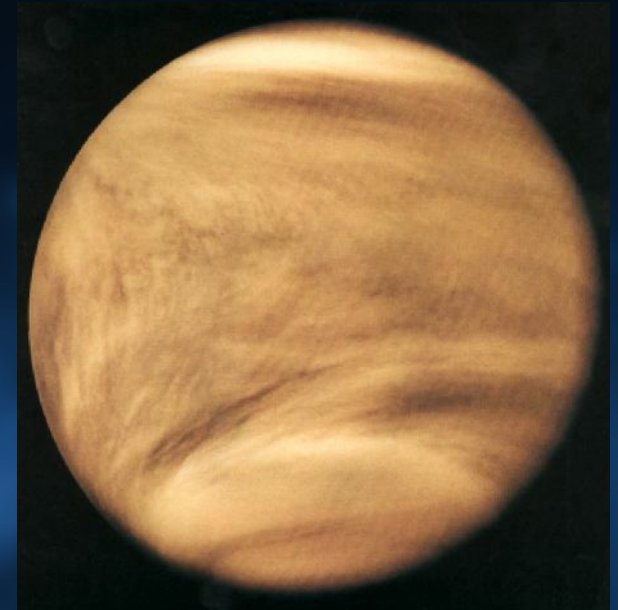


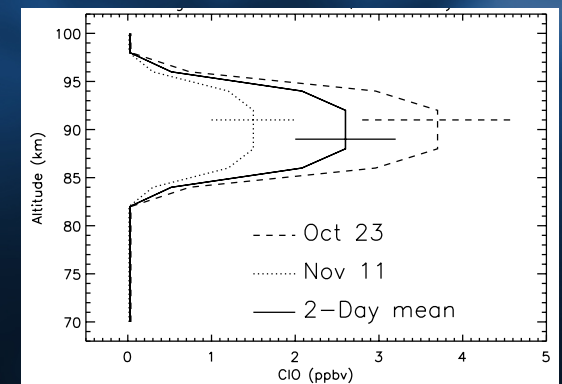
# ClO measured in Venus' Atmosphere Key to Abundant Carbon Dioxide

**The first measurements of chlorine monoxide (ClO) in the atmosphere of Venus support a long-standing theory for the overwhelming proportion of carbon dioxide (CO<sub>2</sub>) that is stable in the planet's atmosphere.**

- Observations of ClO were made using the James Clerk Maxwell Telescope (JCMT) on Mauna Kea, Hawai'i.
- Conventional chemistry involving sunlight predicts that the atmosphere should be a mixture of roughly equal parts oxygen (O<sub>2</sub>), carbon monoxide (CO) and CO<sub>2</sub>; however, it is ~97% CO<sub>2</sub>, with ~3% nitrogen, and only trace amounts of O<sub>2</sub> and CO.
- Chlorine compounds are theorized to catalytically destroy CO and O<sub>2</sub> on Venus in a manner similar to chlorine-catalyzed ozone destruction in Earth's atmosphere.
- These ClO findings provide the first empirical corroboration of a long-standing theoretical explanation for Venus' stable carbon dioxide (CO<sub>2</sub>) atmosphere (*Yung and DeMore, 1982*).



Venus - ultraviolet image from NASA's Pioneer Venus Orbiter



Amount of ClO with altitude measured using JCMT