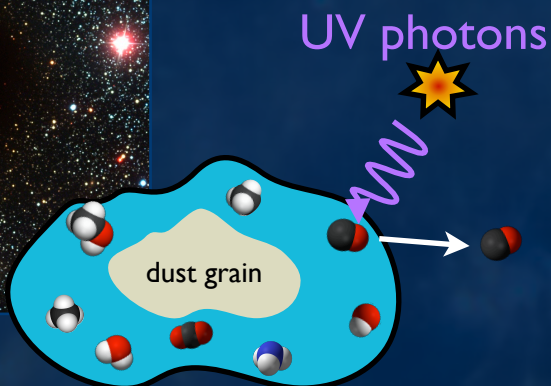
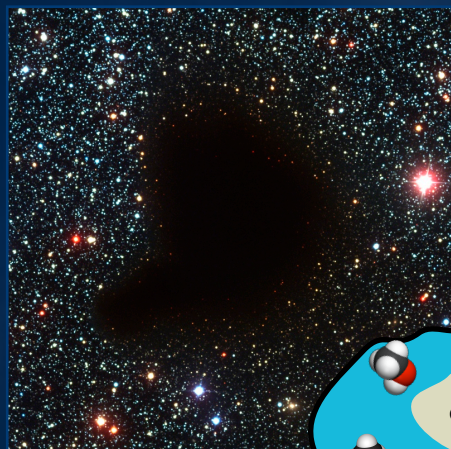


- Non-thermal desorption, such as **photodesorption**, is required to explain the presence of cold gas in low-temperature and UV exposed regions.

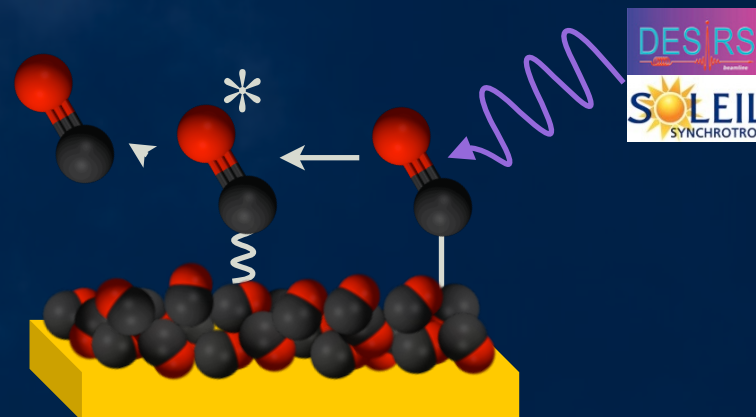
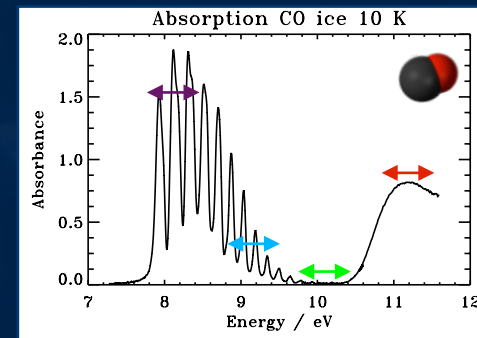


- The UV field around solar-type young stellar objects consists of discrete atomic and molecular emission lines.



Need wavelength-dependent laboratory data on ice photodesorption

- Laboratory experiments using tunable **synchrotron radiation** between **80 - 160 nm**
- CO and H₂O ice have been investigated



- Photodesorption yield of CO is linked to its **absorption profile** (2×10^{-2} to 5×10^{-3} molecules.photon⁻¹)
- **Low photodesorption yields at Lyman α** (121.2 nm) may help modeling the observed cold gas abundances in Ly- α dominated regions.