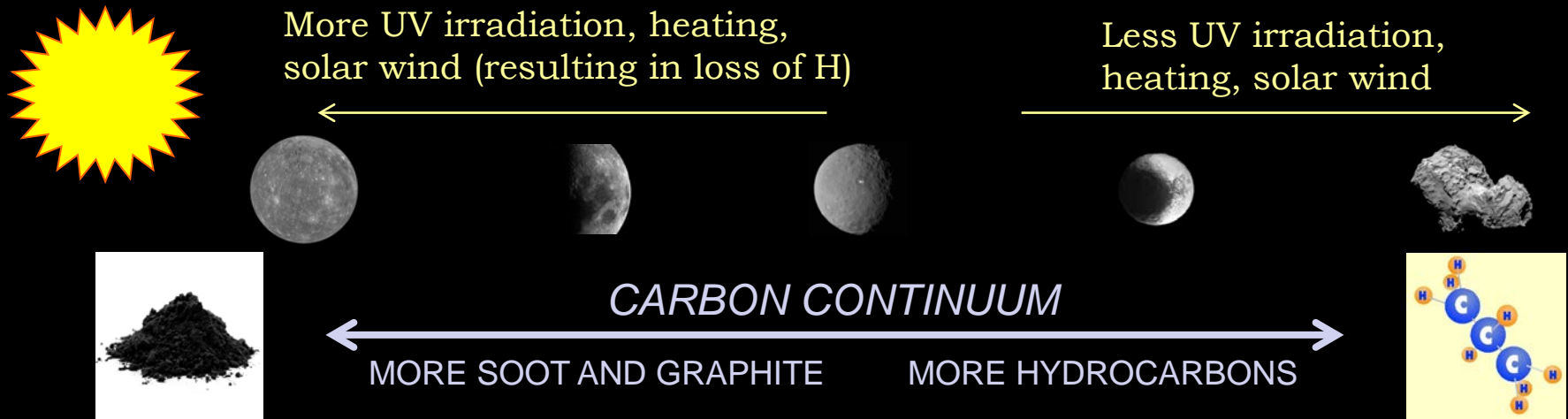


Carbon Distribution Throughout the Solar System

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Instruments on spacecraft such as Cassini and the Hubble Space Telescope are providing new insights into the distribution of carbon species in our solar system, made possible by spectral features that are more easily observed at UV wavelengths.

- Two bodies were the focus of this study: Ceres, which lies in the asteroid belt between Mars and Jupiter, and Iapetus, a moon of Saturn. Spacecraft data from these two were compared with models to make predictions about UV characteristics in other regions of solar system.



- Complex carbon molecules on surfaces in the inner solar system tend to get destroyed closer to the Sun, and converted to simpler forms of carbon (e.g., soot or graphite).
- In the outer solar system complex molecules can survive, and many types of hydrocarbons and organics have been detected on surfaces further from the Sun.
- Carbon compounds make up life as we know it, and are found in the interstellar medium as well as early stellar systems outside of our own – so it's important to examine and understand their non-uniform distribution and evolution.