**Topics**: Key properties of Jovian planets, gravitational potential energy of a gas giant

**Reading**:

- Read the rest of Ch. 10 in Ryden and Peterson (pp. 243 - 263).

**Summary of work to submit**:

- Nothing to submit for Tuesday's class, *but* you should bring to class your list of the key properties of each planet (terrestrial planets, from last time, too).

**Overview**:

We'll continue looking at the several key properties of each planet in the Solar System, one at a time. Now focusing on the Jovian planets. Again, please focus on the important properties these planets (and their ring and moon systems) have in common, and what properties differ among them. Please pay special attention to the derivation of eq. 10.24, that begins on the previous page (see the handout from last time – a xerox of these two pages – could be useful for taking notes). Please recognize that this sort of analysis of the gravitational potential energy of a self-gravitating spherical object applies also to the Earth and, as well, to stars like the Sun.

**Commentary on the reading, viewing, and other preparation**:

Go back to the first section of chapter ten, and write down two to four key properties of each of the three terrestrial planets, and note how these are similar or different from the Earth. And also note *why* the particular planet has this key property (e.g. what's up with Venus's atmospheric composition and how does the fact that the Earth has oceans and Venus doesn't lead to this composition?).

As you read the new material, about the four Jovian planetary systems, similarly note their several key properties, look out for differences and similarities, and especially note what the *causes* of these properties are.

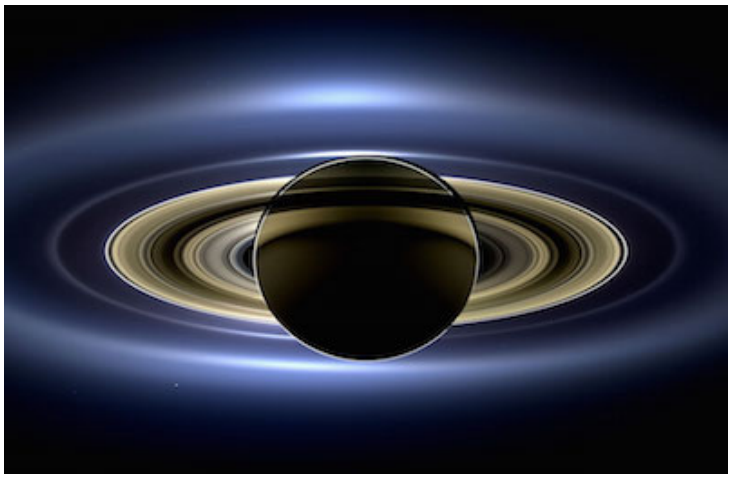

**Fig. 1** https://apod.nasa.gov/apod/ap131113.html