

ERTH 1 – Planets  
Instructor – Memorie Yasuda  
Assigned – June 4, 2007  
Due – June 8, 2007

## Homework 7 – The outer planets (100 points total)

- Answers must be typed, double-spaced, and printed. Except equations and hand-drawn illustrations.
- All papers must be stapled together. Name on front with initials at top right-hand side of each page.
- You will need to use the following resources as you see fit:
  1. Resources on the Web (you may want to look at the posted websites for ideas first, although you will need to look beyond that)
  2. Your textbook and any other printed materials you want to use.
  3. Notes
- You are encouraged to confer with other students, but individual answers must be original, i.e. crafted and written by individuals. No credit will be given for unusually similar responses.
- Homework is due at the start, and usually collected at the end of class. No late work accepted.

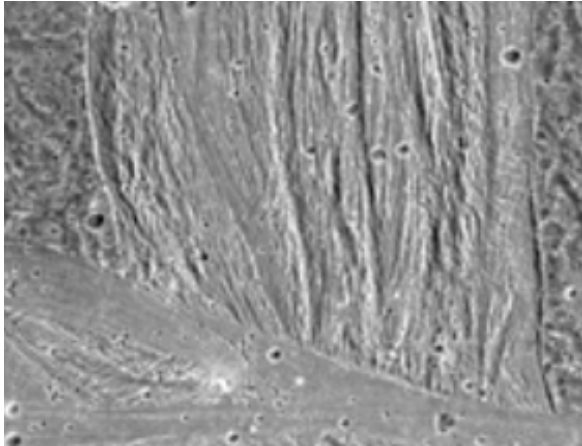
### A. The Galilean Satellites: Individual Characteristics (50 points, 10 points each)

1. **Active Moon Io:** What is the source of energy that drives volcanism on Io's surface?
2. **Icy Moon Europa:** Does Europa have a liquid ocean? Explain why we think it exists and describe its location and configuration.
3. **Life on Europa?:** Europa has become a prime target in the search for extraterrestrial life. Of all the places in the solar system, explain the lines of evidence that make this distant moon a worthy target of investigation.
4. **Cratered Moon Callisto:** Callisto's surface has many impact craters and is often compared to the highland region of Earth's Moon. However, the two surfaces have different compositions that change the appearance of surface craters. Identify the primary surface composition of both Callisto and the Moon. How does this compositional difference contribute to the differences in surface features?
5. **Groovy Ganymede:** Ganymede exhibits two distinct surface terrain colors – dark and light. Describe one major type of surface feature found on each terrain (i.e., list one feature unique to the dark terrain and one for the light terrain).

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**B. Surface Features (50 points, 10 points each)**

In the spaces provided below, identify the feature/terrain shown in each image and indicate the moon from which the image was taken.



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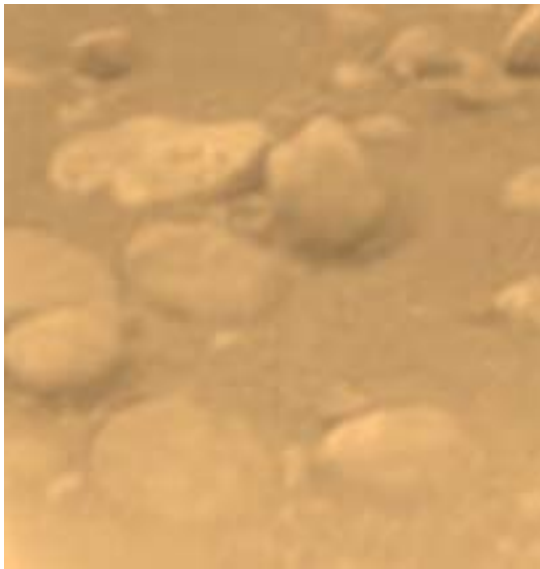
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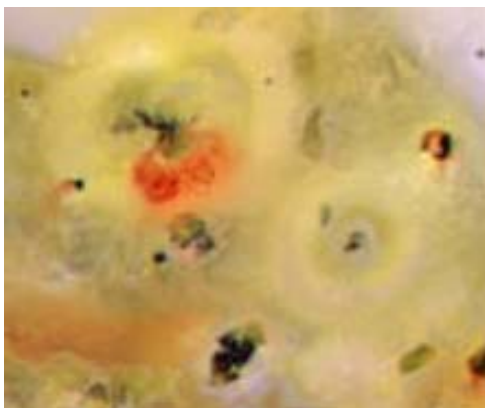
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