

The Planet Ceres

A Worthy Goal for a Great Nation

March 5, 2010
Thomas Lee Elifritz
Madison, Wisconsin USA

Position Statement

The author posits that the mysterious new fifth planet Ceres, and not the surface of Mars, represents the most worthy and realistic near term goal of the human space flight effort.

With the cancellation of the Constellation Program due to the gross mismanagement of its unrealistic expectations, the United States government, its citizens - the public, taxpayers and the workforce, are left with distinct feelings of misdirection and abandonment of its human spaceflight program, as the direct result of actions by the previous administration.

The current administration has presented NASA with a golden opportunity to entirely rethink and redirect its human space flight efforts into the vastly more productive and efficient methods and operations of low Earth orbit space flight now occurring within the commercial sector, but yet our elective public representative bodies - the United States Senate and Congress, still persist in invoking the unrealistic expectations of specific goals and destinations in space, by vocally demanding absolute time lines and deadlines, while simultaneously vastly underestimating or completely ignoring the academic and industry scientific and engineering consensus evaluations of the technological and fiscal realities which govern the successful execution of complex and risky space exploration programs, as well as grossly overestimating their perceived and actual value to current and severe national security issues such as economic stability and social progress, planetary and environmental protection, and a variety of urgent national imperatives such as human health and welfare, STEM education and energy independence, among other issues.¹

Had these recent and newly minted supporters of the program of record and the space shuttle infrastructure performed even a minimal amount of research on this subject, they would have realized by now that they have had five years in which to exercise the critical oversight authority afforded to them by the United States Constitution, and thus they have had ample opportunities to demand, petition or otherwise legislate their authority over the laws of physics, as well as the vagaries of economic supply and demand, and thus could have easily taken it upon themselves to reverse the quantifiable trends of escalating costs and decreasing value of government sponsored human space flight on government owned and operated launch vehicles, well before we had arrived at this critical national failure.

They would surely be aware that two NASA spacecraft are currently in transit and on schedule for a flyby with the planet Pluto,² a distant and unexplored planetary system in the outer solar system, and a rendezvous with the newly recognized fifth planet – Ceres,³ a very large and low gravity icy world in the middle of the asteroid belt. They would also know that these missions also include an initial preparatory rendezvous with the second largest rocky planetoid in the asteroid belt – Vesta,⁴ which will occur sometime next year.

Flagship missions are now well underway, and will produce some dramatic imagery and valuable data as early as 2011. Thus the clear logical order of 'destinations as goals' for human spaceflight, if we absolutely must have them, is from the surface of the planet Earth to low Earth orbit, from low Earth orbit to the International Space Station, on to the commercial exploitation of equatorial orbit, and then from equatorial low Earth orbit into high geosynchronous orbit, from geosynchronous orbit out to the various lunar and solar Lagrange points, and then finally to lunar orbit, out to any of the many near Earth objects, eventually to the two small Martian moons – Phobos and Deimos, and then on into orbit about the mysterious new fifth planet Ceres, and finally down to its surface for study.

Human landings on the surface of Mars are not only particularly unnecessary for the near term study of Martian planetary evolution, they are unrealistic as near term national goals and their widespread adoption as the next big step in space, when many different difficult and dangerous intermediate steps clearly exist, has resulted in the misdirection of critical national assets, and the loss of years of scientific research and technology development work and dollars which are crucial to many national needs, including space exploration.

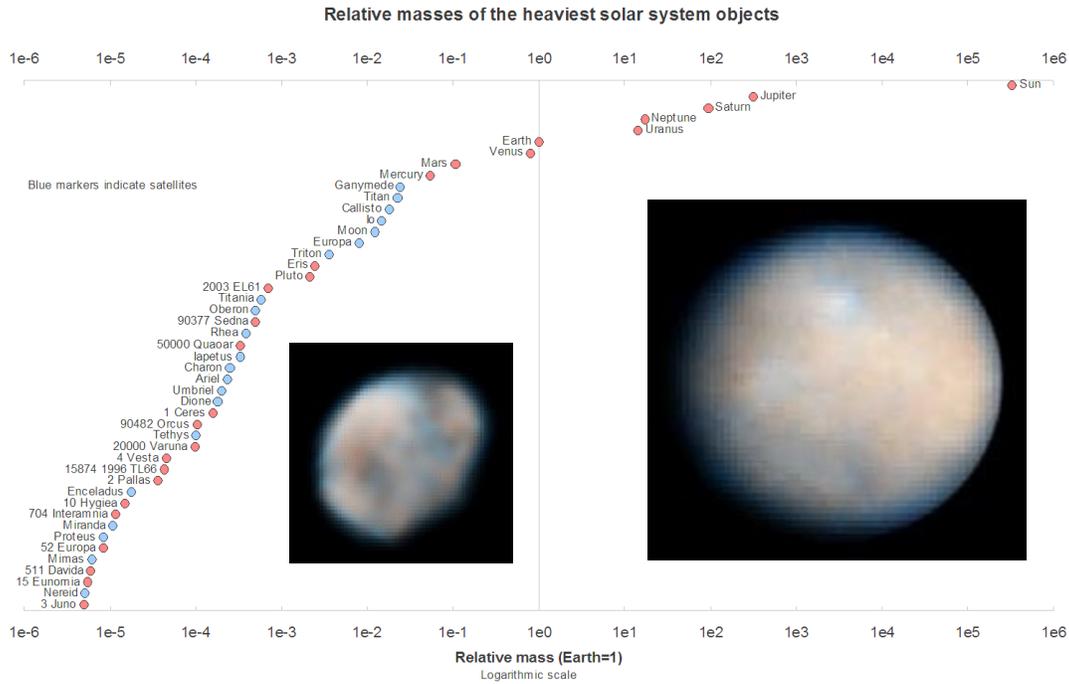
On the contrary, in terms of paradigm shifting energy and resource utilization missions such as geosynchronous satellite salvage, solar energy farms in near Earth solar space, and the unlimited materials potential of NEOs, Phobos and Deimos and the asteroids, human surface landings on the moon and Mars pale in both significance and urgency.

Thus I propose that the focus of the desires and efforts of space enthusiasts and activists be redirected to the more reasonable goal of the planet Ceres, taking five years to prepare yourselves for this task, which under this new plan, would occur some time after 2020. Enforcing unrealistic destinations as goals will only result in further delays and overruns, while pursuing the more realistic goal of free space flight will advance them significantly.

References

1. Justin Kruger, David Dunning (1999). *Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments*. *Journal of Personality and Social Psychology* **77** (6): 1121–34.
2. <http://pluto.jhuapl.edu/>
3. <http://dawn.jpl.nasa.gov/>
4. <http://dawn.jpl.nasa.gov/>

Appendix - The Meghar Scale of Planetary Mass Classification



URL : http://en.wikipedia.org/wiki/File:Graph_showing_relative_masses_2.png

The Meghar Scale of Planetary Mass Classification is a planetary classification scheme developed and posted on the usenet newsgroup – sci.astro.amateur, by Willie R. Meghar, within a period of rapidly developing planetary knowledge during the summer of 2006.

URL : <http://groups.google.com/group/sci.astro.amateur/msg/e05d5976374dc39a?hl=en>

$$M_{\text{Sol}} \approx 1047.56 \times M_{\text{Jupiter}} \quad M_{\text{Jupiter}} \approx 317.83 \times M_{\text{Earth}} \quad M_{\text{Sol}} \approx 332\,946 \times M_{\text{Earth}}$$

| Mass Classification | Mass Range | | Actual Mass | | Mass Unit |
|----------------------------|---------------------|----------------------|-----------------|----------------|--------------|
| Star (Sun) | Variable | M_{Sol} | 1.0 M_{\odot} | M_{\odot} | Solar Mass |
| Dwarf Star | 100 ~ 1000 | M_{Jupiter} | Varies | M_{J} | Jupiter Mass |
| Brown Dwarf | 10 ~ 100 | M_{Jupiter} | Varies | M_{J} | Jupiter Mass |
| Super Giant | 1 ~ 10 | M_{Jupiter} | Varies | M_{J} | Jupiter Mass |
| Jupiter (Gas) | 50 ~ 500 | M_{Earth} | 317.83 | M_{\oplus} | Earth Mass |
| Neptune (Ice) | 5 ~ 50 | M_{Earth} | 17.147 | M_{\oplus} | Earth Mass |
| Earth (Terrestrial) | 0.5 ~ 5 | M_{Earth} | 1.000 | M_{\oplus} | Earth Mass |
| Mars | 0.05 ~ 0.5 | M_{Earth} | 0.107 | M_{\oplus} | Earth Mass |
| Lunar (Moon) | 0.005 ~ 0.05 | M_{Earth} | 0.0123 | M_{\oplus} | Earth Mass |
| Pluto (Plutoid) | 0.0005 ~ 0.005 | M_{Earth} | 0.00219 | M_{\oplus} | Earth Mass |
| Ceres (Asteroid) | 0.00005 ~ 0.00005 | M_{Earth} | 0.000158 | M_{\oplus} | Earth Mass |
| Enceladus (Ice) | 0.000005 ~ 0.000005 | M_{Earth} | 0.000018 | M_{\oplus} | Earth Mass |