

Technical Comments

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Comment on “Evaluating Accessibility of Near-Earth Asteroids Via Earth Gravity Assists”

Robert Farquhar,* David Dunham,[†] and Jim McAdams[‡]
Johns Hopkins University, Applied Physics Laboratory,
Laurel, Maryland 20723-6099

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THE authors of [1] have done an excellent job in describing the advantages of Δ VEGA trajectories for rendezvous missions to near-Earth asteroids. Quantitative ΔV requirements for a number of potential rendezvous targets listed in Table 2 of their article are particularly useful. However, the authors (as well as the editors and reviewers) seem to be completely unaware of the fact that the Δ VEGA technique for a rendezvous with a near-Earth asteroid, 433 Eros, was published in an archive journal in 1995 ([2]). More important, this mission was successfully carried out by NASA and the Applied Physics Laboratory ([3–10]). The mission was called Near-Earth Asteroid Rendezvous (NEAR), and accomplished several important space “firsts,” including the following:

- 1) First spacecraft powered by solar cells to operate beyond Mars orbit (1997).
- 2) First encounter with a C-class asteroid, 253 Mathilde (27 June 1997).
- 3) First spacecraft to orbit a small body, 433 Eros (14 Feb. 2000).
- 4) First spacecraft to land on a small body, 433 Eros (12 Feb. 2001). Additionally, NEAR was also the first and only

spacecraft to employ a Δ VEGA trajectory to achieve its rendezvous with a near-Earth asteroid. This historical fact deserves recognition by the authors and the editors of the Journal of Guidance, Control, and Dynamics.

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*11100 Johns Hopkins Road, Fellow AIAA.

[†]11100 Johns Hopkins Road, Member AIAA.

[‡]11100 Johns Hopkins Road, Senior Member AIAA.