

New doubly-symmetric families of comet like periodic orbits in the spatial restricted $(N+1)$ -body problem

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For any positive integer $N \geq 2$ we prove the existence of a new family of periodic solutions for the spatial restricted $(N + 1)$ -body problem. In these solutions the infinitesimal particle is very far from the primaries, have large inclinations and have some symmetries. In fact we extend results of Howison and Meyer, see [1], from $N = 2$ to any positive integer $N \geq 2$.

References

- [1] R. C. Howison and K. R. Meyer, *Doubly-symmetric periodic solutions of the spatial restricted three-body problem*, *Journal of Differential Equations* **163** (2000), 174–197.