

Patented Orbits Transfers and Manoeuvres Review

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The paper will review a large non-exhaustive list of patents dealing with flight dynamics orbital transfers.

Curiously among the scientific communities working on the orbit transfer, the question of using already patented orbit transfer or not is about never pointed out.

Some famous patents are "a priori" however restricting the possible answers to a given orbital mechanic problem. The Arnon Spitzer patent [1] about the inertial direction of the low thrust during an orbit transfer between Super-GTO and GEO, or the Koppel patent [2] are typical examples of the patents found in the Intellectual Property (IP) databases.

The paper will open the discussion about the real patentability of such trajectories and manoeuvres, but the paper will not give any conclusion on those aspects. However, recommendations for the community will be proposed.

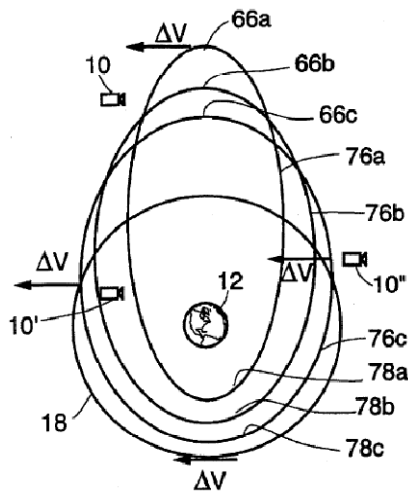


Fig. 1. Spitzer orbit transfer.

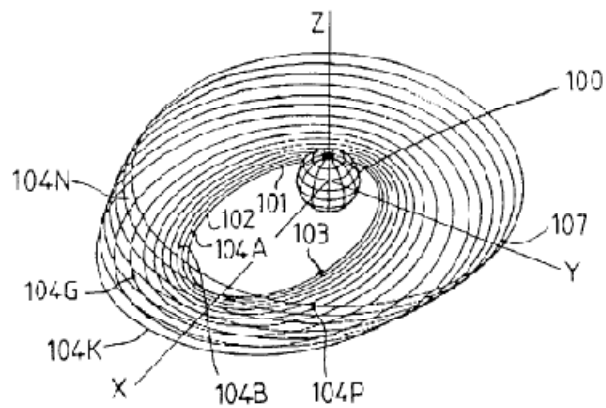


Fig. 2. Koppel orbit transfer.

References

[1] Arnon Spitzer, Optimal transfer orbit trajectory using electric propulsion, patent US5595360 244/158.5, 1997-01-21

[2] Christophe Koppel, Method and a system for putting a space vehicle into orbit, using thrusters of high specific impulse, patent US6116543, 2000-09-12