EARTH TO ORBIT AND SPACE

Magnetic gradient forces can be used to power a delta shaped spacecraft with a large imbedded current loop as illustrated on the right. The craft also has wing flaps and tail flaps for exerting aerodynamic forces for stability during flight. A spiral path would be taken in the strong field gradients of a large ground current loop. Studies of the optimum motion indicate that large payloads could be lifted to about 5,000 feet and velocities of a few thousand miles per hour. A second stage, using chemical rockets would be needed to move higher and to have orbital velocities. This is thus a partial earth to space solution. However, it is extremely useful to take a heavy load to these velocities.


Figure 10 a
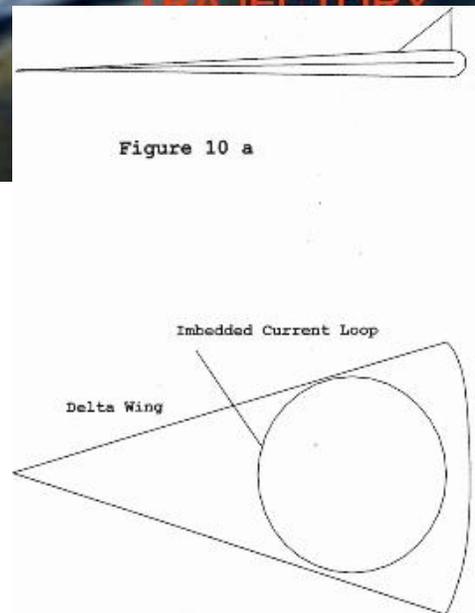
EARTH TO SPACE CITY

The magnetic forces on a current loop in the magnetic field gradients above the ground ring of a space city can provide forces that could propel a vehicle from the earth to the space city in a controlled manner, with velocities under the speed of sound. Such a vehicle, dubbed a "space guppy" because of its looks is shown on the right. This vehicle would follow a helical trajectory from earth to space, propelled by the magnetic field gradients of the current loops. This space ship would have multiple electric current coils. The electric current would be routed with superconducting switches to the coil appropriate for applying force, depending on the ships position in the magnetic fields.

The control room and payload would be inside the space guppy.

This means of reaching the space city would allow relatively slow velocities and soft landings on the space city platform.
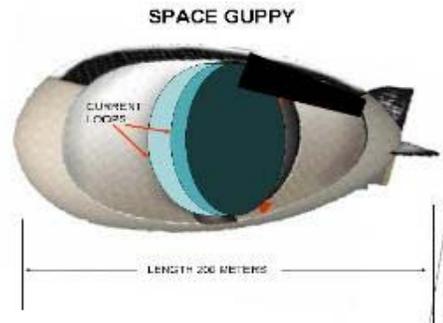
THIS IS NOT A FULLY DEVELOPED IDEA!

The idea is presented hear to obtain some feedback from experts on aerodynamics and superconducting magnet engineering. Work is needed on stability, redundancy and many other issues, including how to shield a control room from the large magnetic fields.

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