

Feasibility study into launching Satellites
Cheaply from Earth at a large percentage of
the speed of light

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Dedicated to all my friends who helped me through life, the Guys at NASA who endeavor to make Star Trek a reality.

Chapter 1

Motivation

After a long email discussion over email with a kind rocket scientist from NASA named Bryan who probably doesn't want to be named fully about why hypersonic ramjets were unsuitable for launching trips to Mars & back by slingshotting inside the atmosphere over & back I got to the guts of the problem being that friction will cause the spacecraft to burn up inside the atmosphere.

Concorde at just Mach 2 heats up to 260 Fahrenheit (hotter than boiling water) & it also expands a couple of feet in length & this problem gets 4 times worse at each doubling in speed. So the problem is how do we create a vacuum inside the earths atmosphere so we can launch satellites using particle accelerators rings which can get particles going at .999997% the speed of light.

Chapter 2

Original Idea

My original nutty idea was to make a hole from the bottom of Mt. Everest to the top of it & build a large hole up through the middle of it & pump the air out of this hole & putting particle accelerator rings from Fermilab & CERN inside this structure & use particle accelerator technology to launch the Satellites.

The problem with this idea is that Mt. Everest would need to be about 300 miles larger for this to work. Adding Earth & Rock to make Mt. Everest this tall setting off hydrogen bombs to move tectonic plates to make Mt. Everest larger or engineering a pipe capable of supporting accelerator rings structure on top of Mt Everest to go up the another 290 miles or so to achieve a vacuum is obviously a ridiculous suggestion.

Chapter 3

Idea no. 2, hopefully the good one

Before launching the Satellite launch around 50 bullet shaped objects at a rate of probably 10,000 a second each of successively larger radius. Probably with conical tops starting at about 1cm in radius & increasing in surface area linearly to about 1 meter in radius. When the bullet stops accelerating vertically have an accelerometer in the bullet to make it explode in a horizontal direction & a put a fuse on it's rear end to cause it to explode if a preceding bullet crashes into it. The idea of doing this is that a successively larger & better vacuum hole will be created in the atmosphere the bullets should I believe travel along the path of least resistance & winds should make minimal effect owing to the speed of the bullets & the speed at which new bullets come along. By the time the satellite is to be launched almost a complete vacuum should be available for it & I'd hope that the Satellite will be able to travel hopefully at upto 97% the speed of light.

Please note I've done no calculations for this it's only an idea. Several problems have to be dealt with by simulation. From what I've seen aerodynamics especially hypersonics is more an art than a science & computer simulations would be difficult without a lot of simplifying solutions. One of the main problems will be ionization caused at hypersonic speeds the next one might be nuclear reactions taking place because of the speed of the bullets & satellite being close to the speed of light. The science/art behind designing this kind of stuff has only been explored at particle accelerators & only with small numbers of particles. <http://freshmeat.net/projects/geant4/> might be a good starting point in developing a simulation.