# Project – Launcher conception

Mission 3 – ESA GEO satellite

* Injection/perigee altitude
* Apogee altitude
* Inclination
* Mass of the payload
* Launchpad latitude (Kourou)

Objectives

* Number of staging
* Appropriate propellant type
* Distribution of masses in each state
* Azimut

The azimuth is determined using the following formula:

We determine the velocity at the perigee:

The semi-major axis of the orbit is

Thus:

So the required is:

With

