

Space Systems Field Exam
January, 2011

You are considering a spacecraft project (the specific type of project is not important, except that you are not expected to consider human spacecraft for this question).

Describe some of the different challenges you will face depending on whether the spacecraft will operate in Low Earth Orbit (LEO), Geostationary Earth Orbit (GEO), or in an interplanetary trajectory.

Specifically, address as many of the impacts to different spacecraft subsystems as you can think of. If a subsystem is not affected by the environment of the spacecraft, say so. Much of your answer can be qualitative, but you must go into quantitative details for at least one subsystem, showing relevant equations if appropriate.

This is an open-ended question, so you must organize your response to be sure to cover the most important points in the time available.