

SPACE SYSTEMS SYMPOSIUM (D1)
System Engineering Tools, Processes and Training (1) (3)

Author: Dr. Marat Nurguzhin

JSC National Company Kazakhstan Gharysh Sapary, Kazakhstan, m.nurguzhin@gharysh.kz

Dr. S Murushkin

JSC National Company Kazakhstan Gharysh Sapary, Kazakhstan, s.murushkin@gharysh.kz

Dr. Vladimir Ten

Kazakhstan Gharysh Sapary, Kazakhstan, vladimir.ten@gmail.com

Mr. Arman Bekembayev

Kazakhstan Gharysh Sapary, Kazakhstan, a.bekem@gmail.com

SYSTEM MODEL FOR EARTH OBSERVATION MISSIONS

Abstract

Many companies in the space industry at some point find the need of a detailed system model for mission design and sizing of satellite subsystems including solar panels area, battery capacity, downlink rate and many others. Our model is being developed in-house which is a typical situation as no existing products on the market are flexible enough for specific cases and types of analysis.

The paper reviews the system model that was initially intended just for quick preliminary analysis and sizing of different types of Earth Observation missions and that is now evolving to integrated, flexible, user-friendly tool for detailed mission design and sizing.

This paper will also describe the use of the system model for Earth Observation missions: typical tasks to solve and the way those tasks are dealt with in the system model.