20XX-XX-XX meeting

Type: **project-wide**

Meeting time: **18:00 – 20:00**

Objectives:

* Iteration review

Information to give:

* Presentation of next iteration

- Program:

Order: communications, mission analysis, power, ADCS, thermal, structure, OBDH, SE, payload-grav, payload-ir

--------- Report --------

Number of people:

|  |  |
| --- | --- |
| Subsystem | People attending the meeting |
| Structure | 6 |
| Thermal | 3 |
| ADCS | 2 |
| Payload | 2 + 1 |
| Power | 4 |
| Mission Analysis | 2 |
| Systems engineering | 4 |
| OBDH | 3 |
| Communications | 3 |
|  | 30 |

Iteration 0 review:

**Communications:**

Section 1: frequency: UHF uplink (more power available for the ground station); downlink VHF (less power on the satellite)

Transmitter power: 4W (EntrySat-inspired budget)

Ground station: Kourou: a lot of unknown parameters. Reception: SNR unknown because temperature noise is unknown.

TOLOSAT reception: SNR estimated with 6°C temperature.

Uplink: non-coherent FSK (better SNR)

Downlink: BPSK (can be changed)

New future objectives: integrate communication link for payload into main stream comm link; add Supaero ground station; study & refine TOLOSAT comm architecture; research on atmospheric model for loss precision

**Mission Analysis:**

Max time in orbit: 143 days (worst case)

Very small variation of eccentricity and inclination

Working on the Doppler effect between Tolosat and Iridium and of the radiation budget (HOMER)

Other possibility for the orbit: polar: better lifetime (+20 days), but not so many missions going there

**Thermal:**

CubeSatShop components for a starting simulation

**ADCS:**

Sun sensor, gyroscope, magnetometer

Definition of mission phases: detumbling, mission (ASTRE), mission (iridium), safe…

Why power dissipation needed? -> for choosing between components, just a characteristic

Use solar panels instead of sun sensor?

**Power:**

Simulation developed (Java) for computing budgets and cycles. Stopped to focus more on IDM.

Power generation is under study with Matthieu Vuillemin

Time allocation for the mission will be computed based on the results

**Structure:**

2 major axis of development: external structure, and internal structure (with PCB stacking)

Main goals for iteration 0: produce a draft of a 2U structure (OK), produce a standardized card to represent the CubeSat components (not ok), choose the fixations

Structure produced in Supaero

Screws bought for the end of the year

**OBDH:**

OBC: a lot of work done in logic of Tolosat (see presentation on Slack)

**Iridium:**

Data on Drive (not entered in IDM yet!)

Felix did a project

To do next: one iridium receiver is available in Supaero

**Gravimetry:**