

Jordi Vila

ELECTRICAL ENGINEER · TELECOMMUNICATIONS AND SPACE SYSTEMS FOCUS

Maryland. United States of America

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Experience

NASA Goddard Space Flight Center

Washington D.C. metro area, USA

ELECTRICAL PROJECT DEVELOPMENT LEADER FOR THE HIGH RESOLUTION MID-INFRARED SPECTROMETER (HIRMES)

Sep. 2017 - Present

As PDL, the ultimate goal is ensuring the proper design, fabrication and integration of all the electrical components on HIRMES. Responsibilities include leading all electrical-related activities for a team of 30 engineers and scientists at Goddard Space Flight Center (GSFC), and coordinating deliverables and HIRMES electrical system integration between the GSFC team and teams from other collaborating NASA centers, private companies and universities.

SYSTEMS ENGINEER FOR THE BALLOON EXPERIMENTAL TWIN TELESCOPE FOR INFRARED INTERFEROMETRY (BETTII)

Oct. 2014 - Oct. 2018

- After more than 3 years in the project, launched and operated the Balloon Experimental Twin Telescope for Infrared Interferometry (BETTII). Core team member during the two launch campaigns (Texas 2017 and New Mexico 2016).
- Electrical and Controls lead Engineer, mentoring several interns and graduate students.
- Developed the pointing and attitude control mechanisms during flight based on a Kalman filter algorithm embedded on a cRIO FPGA.
- Thermal dissipation and Power system design: power budget for the various voltages and current requirements across the payload.
- Click on the text to see first author publications; "Attitude control system for a balloon based telescope" and "Flight performance of the attitude control system of the balloon experimental twin telescope for infrared interferometry (BETTII)"

INTERNSHIP - MASTER THESIS

Apr. 2014 - Oct. 2014

- Developed the software and hardware infrastructures for the telemetry system used on the stratospheric balloon telescope BETTII. The protocol incorporated different frame sync packets, CRC error detection, and was bandwidth adjustable.
- Core team member during the deployment and operation of the Telemetry System during BETTII's launch and flight in June 2017. The infrastructure was used to store and download several hundreds GB of data from the telescope and to send commands to control and move the telescope at 135,000 feet.

ATOS - Tempos21

Barcelona, Spain

SOFTWARE ENGINEER

Feb. 2012 - Aug. 2012

- Working at the Research & Development department under the international project ADAPTA evaluating the feasibility for android mobile applications to work with Linked Data.

Skills

Programming	Web Design (SQL Database, Flask, HTML/PHP/JavaScript/CSS), Java, Android SDK, C/C++, AVR microcontrollers, git.
Applications	LabVIEW FPGA, Express PCB, atom, Eclipse, OMNeT++, Matlab, Photoshop, Slack.
Lab. Equipment	Analog and Digital circuit design, oscilloscope, spectrometer, optical equipment, RF & Bluetooth communications.
Languages	English, Spanish, French and Catalan. Italian (Beginner).

Education

Higher Institute of Aeronautics and Space (ISAE - SUPAERO)

Toulouse, France

AERONAUTICAL ENGINEERING. SUPAERO 3RD YEAR GRADUATE PROGRAM

Aug. 2013 - Mar. 2014

- Selective education establishment outside the main framework of the French university system, dependent of the Ministry of Defense.
- Field of study: Embedded Systems in airplanes. Specialization: Space communications, navigation and satellite networks.

Polytechnic University of Catalonia (UPC - ETSETB)

Barcelona, Spain

MSc TELECOMMUNICATIONS ENGINEERING

Sept. 2011 - Jun. 2013

- **Master Thesis with Honors (9.5/10):** Telemetry System of the Balloon Experimental Twin Telescope for Infrared Interferometry (NASA Goddard Space Flight Center).

Polytechnic University of Catalonia (UPC - ETSETB)

Barcelona, Spain

BSc ELECTRICAL ENGINEERING

Sept. 2008 - Jun. 2011

- Focused on Signal Processing, Radio communications, Telematics, Internet of Things, Optical Communications and Antennas.