SAW Evolution in EPS

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Abstract:

The space industry is transforming rapidly as new reusable rockets and Low Earth Orbit (LEO) mega-constellations enter the commercial space market. These LEO systems are quickly becoming the core satellite option for their ability to support low-latency and high throughput network applications and extend terrestrial network coverage. The rise of the mega-constellations from the United States, China, and Europe have become significant drivers in the expansion of satellite connectivity for the global telecommunications sector, which will culminate in an annual orbital launch cadence to support over 43,000 active satellites expected in orbit by 2032.

OHB-I will surely be one of the most important participants in this space market with over 40 years of heritage (over 58 satellites or instruments successfully in orbit) especially in Electrical Power Subsystem (EPS) design. The aim of the EPS is to provide power to the Spacecraft (SC) platform and payloads, using the energy stored in a secondary battery and the power generated by the Solar Array Wings (SAW). For what concern the SAW, since the number of satellites will considerably increase in the next years, the research shall work towards higher efficiency solar cells, lower costs and less ambient impact in terms of sustainability.

Conflicts of Interest

No conflict of interest.