

14TH IAA SYMPOSIUM ON SPACE DEBRIS (A6)  
Mitigation and Standards (4)

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ARTICA: TEST CAMPAIGN FOR QB50 AND FIRST IN ORBIT RESULTS

**Abstract**

ARTICA (Aerodynamic Reentry Technology in Cubesat Application) is an autonomous deorbiting device designed to be compliant with Cubesat standards. In fact several iterations in the project, started in 2013, led to the realization of an extremely compact, lightweight plug and play device. The main portion of ARTICA hosts the reentry aerodynamic sail: thanks to a patent pending releasing mechanism and unique closing procedure it is possible to easily store a sail with an area greater than 2,5 square meters in a limited volume (Cubesat form factor with an height of less than 20 mm). The top portion of the current system hosts electronics and independent power supply. ARTICA can be configured to self-deploy the sail after an arbitrarily decided amount of time (it is dimensioned to guarantee a sail storage time of at least 5 years), or the opening of the sail can be prompted by the main satellite. ARTICA constitutes one of the payloads of URSA MAIOR, the 3U Cubesat developed by University of Rome “La Sapienza” in the frame of QB50 mission, scheduled to be launch in July 2016. The present article is dealing with the report of integration activities, results of acceptance ground tests performed prior to the launch of the satellite, satellite to launcher integration operations and data collected in the first months of in orbit operations.