

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
On Track - Undergraduate Space Education (3)

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SERA-3, THE THIRD SUPERSONIC EXPERIMENTAL ROCKET INSIDE PERSEUS PROJECT

Abstract

In the present paper, the PERSEUS project is presented. It is an initiative set up by the French Space Agency (CNES) for which the aim is to test innovations and promising technologies applicable to space transportation systems. To achieve this objective, students from university or high engineering school are coordinating their efforts to build technology demonstrators (ground and flight), driven by an educational initiative increasing their motivation for space jobs. The long-term goal is a detailed preliminary project of a small launch vehicle able to put 10-kilogram nano-satellites in low-Earth orbit. To achieve this goal, supersonic experimental rockets are designed and built by students inside PERSEUS project. A focus is done on the SERA-3 rocket, the third supersonic rocket which will be launched on April 2017 from Esrange Space Center in Sweden. Several objectives are associated to this flight demonstrator like to test a three-engined stage, to prepare the next two-stage rocket, to achieve a supersonic flight in order to study aerodynamic phenomenon, to take on board two payloads, etc.