

Estimating the flight path of a stratospheric balloon for meteor observations

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In the framework of the MALBEC project (Meteor Automated Light Balloon Experimental Camera), we developed a tool to perform stratospheric balloon flight path. The goal is to have an idea of the trajectory before and during the flight in order to best recover the nacelle. Several flight regimes are defined: ascending, uncontrolled descent and semi-controlled descent (with parachute). The equation of motion for each regime are described. Simulations are performed and compared to past flights (data provided by CNES). Differences are quantified as a function of the weather.