

News Archive: Undergraduate

REXUS/BEXUS: The third DLR student prize for rocket and balloon experiments

1 September 2009



On Tuesday 1 September 2009, the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) announced the third contest in the REXUS/BEXUS (Rocket/Balloon EXperiment for University Students) programme. Students are invited to submit their proposals for experiments to be carried in the gondola of a stratospheric balloon in Autumn 2010 or in a high-altitude rocket in Spring 2011. The deadline for proposal submission is 16 November 2009.

REXUS and BEXUS: Research in the polar circle

The rockets and balloons are launched from above the Arctic Circle at the Esrange Space Flight Centre in Kiruna, Sweden. With their various flight profiles, they give students unique environmental conditions for their experiments. A BEXUS balloon provides from two to five hours flight time for experiments, reaching the middle stratosphere at a maximum altitude of 35,000 metres. The flight of a REXUS rocket, on the other hand, only lasts for five minutes – but it carries its experiments to an altitude of around 90,000 metres, at the very edge of space.



A BEXUS balloon takes off

Looking for creative, exciting and innovative concepts

Candidates must independently develop and implement a creative, exciting and innovative experiment. Proposals might be in the areas of atmospheric physics, remote sensing or radiation physics. Balloons and rockets also provide excellent opportunities for testing new technologies, such as miniaturised satellites. Zero-gravity experiments are also possible – with a duration of around 90 seconds.

The students develop their experiments as small projects. They go from proposing an idea and planning its implementation to publishing their results. Between these two stages, the participants must build and test their experimental equipment. They participate in the launch preparations at Esrange, monitor and control their experiments from the control room, and end by processing the resulting data. Throughout the project, rocket and balloon technicians from DLR and the Swedish Space Corporation (SSC) support the students.



Successful launch of the REXUS 6 rocket

Germany and Sweden work together in the student programme

REXUS/BEXUS is a collaboration between DLR and the Swedish National Space Board (SNSB). This means that half the payloads are available for German and Swedish student experiments. SNSB has also opened its allocation to students from the other member states of the European Space Agency (ESA). Calls for applications are made every September, through DLR and ESA.

Since the start of the programme in 2007, a BEXUS programme was implemented in October 2008 and a REXUS programme in March 2009, each with two flights. There have been five participating teams from German universities and high schools. The preparations for the BEXUS 8 and BEXUS 9 balloons are presently underway, and the launches are scheduled for 4–13 October 2009 at Esrange.

Application information

The technical and organisational requirements as well as application forms can be downloaded from the DLR REXUS/BEXUS web pages or from the official REXUS/BEXUS website.

As part of the REXUS/BEXUS programme, Thomas Reiter, a member of the DLR management board (responsible for spaceflight research and development) and an ex-astronaut, will give a lecture about

his experiences in space and the experiments on the International Space Station and the Russian MIR space station.

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