



REXUS / BEXUS

Experiment Proposal Form



Full experiment title	
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REXUS

BEXUS

spinning with 4 Hz

despun with Yo-Yo to about 0.08 Hz

Science & Organisation

What is the scientific and / or technical objective of your experiment?	<i>This description should outline the scientific / technical question addressed, the assumptions made and the research methods chosen to solve the question. Expected results should be stated.</i>
Why do you need a rocket / a balloon?	
Where did you get the idea from?	<i>e.g. research programme at your university, already performed similar experiment, scientific publications, books, etc.</i>

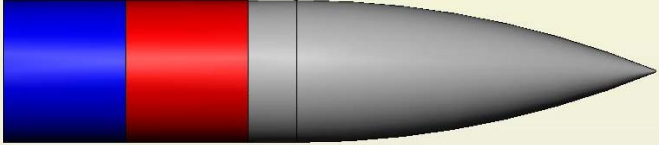
Describe your experiment	<i>This part should link the scientific objective to the experiment itself. Explain how you are going to fulfil the scientific goal.</i>
Which data do you want to measure?	
How do you want to take measurements?	
Describe the process flow of your experiment?	
What do you plan to do with your data after the flight?	

Organisation of your project	<i>How will you organise / distribute work within your team? Please note that you are responsible for all aspects of your experiment (science, mechanical & electrical engineering, software, etc.)</i>
Are you supported by an Institute or a professor?	
Do you have access to a workshop or a laboratory?	
Do you have all the material and equipment which is needed for your experiment? If not, how do you plan to obtain it?	
How do you plan to finance your expenses?	
Who else will support you (sponsors, others)?	

Outreach Programme	
Describe your outreach programme for before, during and after the REXUS/BEXUS flight campaign.	<i>How are you planning to present your experiment to the public? e.g. newspaper, local radio, webpage, presentation at the university, etc. <u>The execution of an outreach programme is mandatory!</u></i>

Experimental Set-up & Technical Information

Mechanics	
Describe your experimental set-up.	<i>Describe and outline the preliminary set-up of your experiment. Attach relevant documents, such as CAD drawings, to this form.</i>
Estimate the dimensions and the mass of your experiment.	
Indicate the preferred position of your experiment:	<i>REXUS: Indicate the preferred position in the rocket: bottom module, top module or nosecone section. Do you need access to the outside environment? Holes? Hatches?</i>

	
	<p><i>BEXUS:</i> Define preferred position in the balloon: inside or outside the gondola or in the flight train.</p>

Electrics / Electronics	
REXUS only: Will you need the 28 Vdc power supply from the REXUS service system?	<i>BEXUS experiments cannot be powered by the BEXUS system.</i>
Will you need (additional) batteries? What do you need for charging?	<i>Qualified batteries are listed in the REXUS and BEXUS User Manuals.</i>
Estimate the electrical consumption of your experiment.	
Do you use any equipment with high inrush currents?	<i>e.g. Motors may need high inrush currents which exceed the nominal allowed current limit.</i>
REXUS Only: Do you need auxiliary power? Do you need a separate umbilical?	<i>Auxiliary power for charging or consumption before launch is not standard. Mention here whether you need auxiliary power and why.</i>
Do you need uplink and / or downlink?	<i>Will you downlink your data or store it during the flight? Will you uplink commands? What is the expected data rate?</i>
REXUS Only: Do you need to use the REXUS TV Channel?	<i>There is only one TV channel available, so only one experiment can use it. Why should it be your experiment?</i>
Provide an event timeline, including the experiment actions during flight, such as timer or telecommand	<i>Describe your event timeline.</i>

events.	
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Environmental Questions & Safety Issues	
Does the experiment use wireless devices?	<i>e.g. Wifi (WLAN), Bluetooth, infrared, airport, data transmitters. Describe the type of devices and frequencies used.</i>
Does the experiment create a magnetic or electrical field?	
Could there be an electrostatic discharge from your experiment?	
Is the experiment sensitive to light?	
Is the experiment sensitive to vibrations?	
Does the experiment generate vibrations?	<i>e.g. Vacuum pump, rotating devices, etc.</i>
Will you use any flammable, explosive, radioactive, corrosive, magnetic or organic products?	<i>Specify any products you will use with any of these characteristics.</i>
Will you use a laser?	<i>Which class? Is the lather path securely contained?</i>
Is your experiment airtight? Are parts of your experiment airtight?	<i>Yields to a pressurized experiment (1 bar) when the vehicle reaches higher altitude with lower pressure values. This question should remind you that there will be a very low ambient pressure environment for your experiment.</i>
Are there any hot parts (> 60°C)?	<i>Mention any parts besides electronics that heat up.</i>
Are there any moving parts? Are the moving parts reachable?	<i>This is important for the preparation before launch. Access to the experiment will be discussed with EuroLaunch. e.g. a tappet is used for a moving part.</i>

Do you need any pressure systems from EuroLaunch before launch?

If you know that you need for example a pressurized nitrogen-bottle for your experiment before launch, please mention it here. All pressurized bottles will be handled by EuroLaunch personnel.

Your text should be intelligible to scientists of various fields and engineers with a general scientific background.

Before you submit your proposal, please ensure that you have read the REXUS/BEXUS Technical Overviews. You can also refer to the REXUS/BEXUS User Manuals for more detailed information. The forms and the documents are available at www.rexusbexus.net.

To submit your proposal to ESA, please register at www.joinspace.org and download this application form as a Word file. The completed form must be uploaded again before the deadline.