

RIT Space Exploration Project Proposal Standard Format and Sample Content

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Abstract—A standard format for SPEX Project Proposals is key to organize and document the many projects members of RIT Space Exploration wish to pursue. The goal of the SPEX Standard is to organize, refine, and archive space exploration research. Documentation is vital to sharing and maintaining the wealth of ideas and information developed by all students at RIT. SPEX Project Proposals aim to provide a foundation for new projects to grow, or premature projects to develop months or years in the future. A standard for project proposals and reports shall provide SPEX with a robust method to maintain a healthy ecosystem of projects in all stages of development including the event where a SPEX member goes on co-op or graduates.

NOMENCLATURE

c	Speed of light	$2.9979 \times 10^8 \text{ m s}^{-1}$
k	Linear spring stiffness coefficient	
RIT	Rochester Institute of Technology	
SPEX	RIT Space Exploration	
SPP	SPEX Project Proposal	

I. INTRODUCTION

Examples of proper formatting, organizational techniques and content make writing SPEX Project Proposals as easy and painless as possible. Writing documentation such as proposals and reports is a lot of work, but it supports the continued growth of knowledge and experience in science and engineering for SPEX as a whole. In technical research and academia, communicating one's thoughts and ideas is arguably more important than the ideas themselves. For example, when applying to a grant from a scientific foundation, receiving funding to continue research impinges on how the motives and techniques of a research group resonate with the goals and objectives of the foundation.

In the case of SPEX, an SPP carries value in the act of documenting ideas and effectively communicating them with others within and external to RIT Space Exploration.

II. PRIMARY OBJECTIVE

the goal is to capture all ideas (incl. ones that are beyond our capability, interesting ideas, or things we just don't have time for, in addition to the ones that we actually work on and develop). that way if someone goes on coop or graduates, cool ideas don't leave with them

similarly, it serves to provide traceability to projects as they grow and change, to prevent feature creep, going down rabbit holes, etc and hopefully prevent good projects from dying because they get too off track

III. SECONDARY OBJECTIVES

A. Mindset

Firstly, it gets people in the right mindset for thinking about what is important, what needs to be considered before taking off on a project.

B. Plug-and-play

Having a plug-and-play template is the first step to learning how to make something like this on your own—that's how I learn, and it removes a major barrier of starting from scratch. LaTeX may prove to be daunting for some people, but in my view it is better to encourage people to learn LaTeX than to rely on something like Word.

IV. BENEFIT TO SPEX

By writing proposals and familiarizing undergraduate and graduate students from any discipline with this type of approach and execution, SPEX members will be better equipped convey their ideas to others in a methodical and organized manner. Ideally, an abundance of ideas and projects encapsulated in SPPs would outlive their respective authors and continue to sustain SPEX with valuable research opportunities invariant of individual members' absences due to co-ops or graduations. Perhaps in the future, SPEX proposals may be used as baselines for grant applications and other funded research efforts.

V. LONG-TERM VISION

as we get more experience writing these papers, we will build a library of meaningful work and be able to save it in a non-rats-nest type of way. knowledge will be preserved. perhaps we could even get a few of these published...

VI. IMPLEMENTATION

In the ideal case, a project will begin with a proposal. That proposal gets sent around to spex members (and nonmembers) to draw support and build a team. research and work happens, documented along the way. at the end of the project (or end of semester, whichever comes first), the team writes a report of the project with what they did, if it was successful, and recommendation for future projects. another newer spex member might pick up where the last paper left off, and the cycle repeats.

A. Deliverables

B. Timeline

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