Parameter-Induced Impact on Landing Simulation

Randy Chen

*University of Illinois at Urbana-Champaign, Department of Aerospace Engineering*

**With our current technology, humans can send probes to other planets in the solar system. This task symbolizes the great achievement of humankind but also requires intensive research and simulations. This project explores how external parameters might affect the performance of a landing simulation. The project aims to devise a set of experiments to determine a set of optimal external parameter values for achieving an ideal landing velocity of a lander equipped with a thruster. A design of experiment is conducted as a procedure to yield experimental results and conclusions.**

1. **Introduction**

Summarize your project objectives here. This section should motivate your paper. You can do this by, for example, creating a notional mission that your lander would be used for.

1. **Design Requirements**

Summarize your design requirements and design parameters here.

Summarize your general vehicle concept here. Include a rough sketch of what the lander looks like (the sketch can be hand drawn).

1. **Simulation**

Describe your simulation approach and calculations here.

1. **Design Space Exploration**

Describe your design space exploration approach, calculations, and results here.

1. **Conclusions**

Summarize your final design here.

Discuss your conclusions here.

**References**

Cite the references used in your research and any data sources here.

**Appendix I**

Include details that are not appropriate for the main report here.