

DESIGN, FABRICATION, AND CHARACTERIZATION OF A LOW-DISTURBANCE,
ACTIVELY-CONTROLLED, MACH 5 TO 8 WIND TUNNEL

A Dissertation Proposal

by

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ABSTRACT

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The next pages are Dedication, Acknowledgments, Contributors and Funding Sources, and Nomenclature. Contributors and Funding Sources is required, the rest are optional.

DEDICATION

To my mother, father, grandfather, and grandmother. I'm filling in more space so that this extends
to the next line.

ACKNOWLEDGMENTS

This section is also optional, and limited to four pages. It must follow the Dedication Page (or Abstract, if there's no Dedication). If listing preliminary pages in Table of Contents, include Acknowledgments. This heading (ACKNOWLEDGMENTS) is bold if major headings are bold. It should be in same type size and style as text. As does the vertical spacing, paragraph style, and margins.

I would like to thank the Texas A&M University Graduate and Professional School to allow me to construct this L^AT_EX thesis template.

CONTRIBUTORS AND FUNDING SOURCES

Contributors

This work was supported by a thesis (or) dissertation committee consisting of Professor John Doe [advisor — also note if co-advisor] and John Doe of the Department of [Home Department] and Professor(s) XXXX of the Department of [Other Department].

The data analyzed for Chapter IV was provided by Professor Thompson. The analyses depicted in Chapter X were conducted in part by Daniel James of the Department of Statistics and were published in (2004) in an article listed in the Journal of Things.

All other work conducted for the thesis (or) dissertation was completed by the student independently.

Funding Sources

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NOMENCLATURE

ACE	Actively Controlled Expansion
CFD	Computational Fluid Dynamics
FEA	Finite Element Analysis
BCDC	Bush Combat Development Complex
NAL	National Aerothermochemistry and Hypersonics Laboratory
MW	Machine Works Inc.
FEDC	Fischer Engineering Design Center
PLC	Programmable Logic Controller
L^1	Space of absolutely Lebesgue integrable functions; i.e., $\int f < \infty$ test test test test test test test
L^2	Space of square-Lebesgue-integrable functions, i.e., $\int f ^2 < \infty$
$PC(S)$	Space of piecewise-continuous functions on S

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Some stuff here about hypersonics

1.2 Hypersonic Wind Tunnels

Wind tunnel stuff

1.3 Turbulence

Turb stuff

2. DESIGN AND FABRICATION OF ACE2.0

2.1 Motivation

The conventional ACE (Actively Controlled Expansion) Tunnel was designed...

2.1.1 Turbulent Transition

Stuff

2.1.1.1 *ACE Experimental Data*

Stuff and figures



Figure 2.1: A caption about this figure

2.1.1.2 *Mach Line Tracing*

Stuff and figures



Figure 2.2: Another caption

2.1.1.3 *Suspect Transition Mechanisms*

Stuff here [1]

1. Throat
2. Stuff
3. Stuff
4. Stuff

2.1.2 Active Control Capability

Stuff here

2.2 Design

Stuff

2.2.1 Nozzle Contour Codes

Stuff and figures

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Figure 2.3: A caption about penguins

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2.4.2 Actuation

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3. EXPERIMENTAL SETUP AND MEASUREMENTS

3.1 Nozzle Survey

Stuff

3.2 Mach Sweep Hysterisis

Stuff

4. RESULTS AND DISCUSSION

Stuff about experminet results



Figure 4.1: A caption about penguins

More stuff

4.1 Maybe

4.2 Possibly

5. CONCLUSIONS AND RECOMMENDATIONS

Stuff here

5.1 Maybe

5.2 Possibly

REFERENCES

- [1] W. S. Saric, “Görtler vortices,” *Annual Review of Fluid Mechanics*, vol. 26, no. 1, pp. 379–409, 1994.

APPENDIX A

FIRST APPENDIX

Text for the Appendix follows.



Figure A.1: A caption here

APPENDIX B

THIS TITLE IS MUCH LONGER THAN THE FIRST AND EXTENDS ALL THE WAY TO
THE NEXT LINE

Text for the Appendix follows.



Figure B.1: A caption here

B.1 Appendix Section

B.2 Second Appendix Section