

SOLITARY-WAVE FAMILIES OF
DISPERSIVE NONLINEAR PARTIAL DIFFERENTIAL EQUATIONS

by

JONATHAN LETO
B.S. University of Central Florida, 2004

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Major Professor: S. Roy Choudhury

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ABSTRACT

The Generalized Pochhammer-Chree Equations govern the propagation of longitudinal waves in elastic rods. Wave propagation in a generalized Microstructure PDE, under the Mindlin relations, is also considered. Limited analytic results exist for the occurrence of one family of solitary wave solutions of these equations. Since solitary wave solutions often play a central role in the long-time evolution of an initial disturbance, we consider such solutions here (via normal form approach) within the framework of reversible systems theory. Besides confirming the existence of the known family of solitary waves, we find a continuum of delocalized solitary waves (or homoclinics to small-amplitude periodic orbits). On isolated curves in the relevant parameter region, the delocalized waves reduce to genuine embedded solitons. The new family of solutions occur in regions of parameter space distinct from the known solitary wave solutions and are thus entirely new. Directions for future work are also mentioned.

The Family

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CHAPTER ONE: INTRODUCTION

1.1 First-level Subheading

First-level subheadings are centered, typically underlined and occur in upper/lower case letters. In your styles menu, you will usually refer to this as Heading 2.

1.1.1 Second-level Subheading

Second-level Subheadings are usually centered in upper/lower case letters with no additional formatting. These are referred to as Heading 3.

Third-level Subheading Acts the same as command `\paragraph`. I do not see any reason to go any deeper with that.

CHAPTER TWO: LITERATURE REVIEW

CHAPTER THREE: METHODOLOGY

CHAPTER FOUR: FINDINGS

Chapter Four, also called Results or Data Analysis, usually provides detailed findings of the research. This chapter is where tables and figures most often appear, so make sure formatting is consistent.

4.1 Sample Table

The following sample table is an example of acceptable table formatting. Descriptive titles appear above tables and may appear either on one line or stacked and single-spaced. The table itself may also be single-spaced as necessary. If possible, try to keep tables and/or figures all on one page. If necessary, start the table or figure on a new page, even if this means leaving blank space on the preceding page. If you must split a table over multiple pages, repeat the table headings and continue. It is not necessary to repeat the table title.

Table 4.1: Classroom Checklist for Physical Organization (a sample table)

	Classrooms					
Physical Components	A	B	C	D	E	F
Desk Groupings for Student Interaction	5	3	3	5	3	2
Learning and Resource Centers	3	2	2	3	1	1
Flexibility of Furniture Use	3	4	3	3	2	1
Specific M/G Displays	1	1	3	2	2	2
Total out of 30 points	12	10	11	13	8	6

Degree of Application: 5=High; 4=Medium-High; 3=Medium; 2=Medium-Low; 1=Low

M/G=Multicultural/Global

A, B, C, D, E, and F are the classrooms of Alice, Betty, Carol, Donna, Elaine, and Fran respectively.

4.2 Sample Figure

The following is a sample figure with acceptable figure formatting. For figures, be sure you format both the figure and the figure title consistently. This includes placement (centered or left-justified), spacing before and after, line spacing, point size and font.

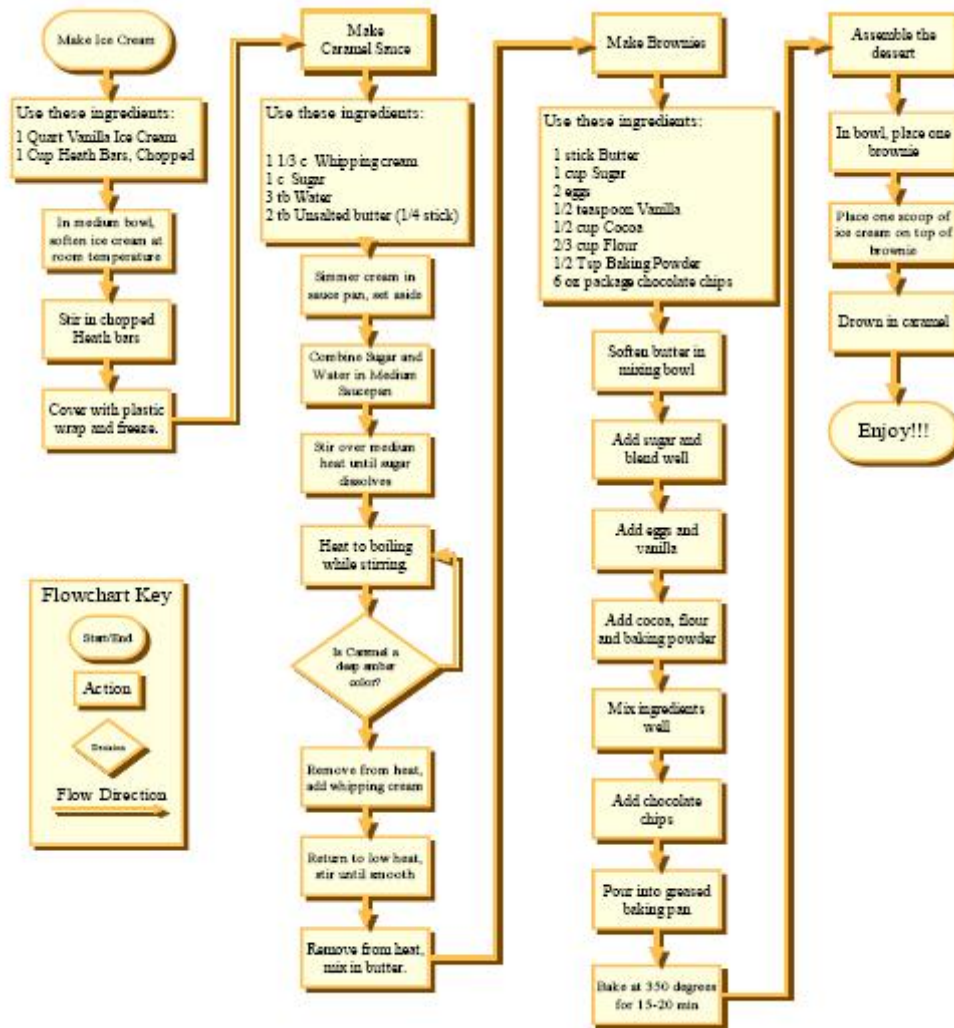


Figure 4.1: Heath Bar Caramel Brownie Sundae

CHAPTER FIVE: CONCLUSION

Chapter Five, also called “Summary”, “Conclusion” or “Recommendations”, usually presents a conclusion to the research, offers recommendations to the problem investigated, or discusses implications for future studies.

5.1 Bookmarks

A few words about bookmarks. Frontmatter entries, like the Abstract, Acknowledgments and the Table of Contents should appear in the bookmarks but not in the Table of Contents. The TOC contains only pages that appear after the Table of Contents in the document, usually beginning with the List of Figures. So, bookmark and Table of Contents entries do vary. However, bookmarks should include all major and chapter headings and at least first-level subheadings EXACTLY as they appear in the document (and the TOC). And readers should be able to link to pages within the ETD from all of the bookmarks, the TOC entries, as well as the Lists of Figures and Tables.

APPENDIX: TITLE OF APPENDIX

- Begin appendix text on the page following the buffer page
- Continue Arabic pagination; do not restart page numbering with an appendix
- Use the same style and format for buffer page headings as you do for other body chapter headings.
- Letter, don't number, appendixes (e.g., APPENDIX A, APPENDIX B)
- If you have only one appendix, do not letter it at all
- Appendixes should follow the margin and other formatting requirements from the rest of the document

A.1 About References

References appear in the style of your particular reference system. While a hanging indent is preferred, some style guides use alternate formatting. References should be either double-spaced throughout, with no space between entries, or single-spaced within entries with a double space between. Below find a sample reference with a hanging indent, formatting along APA style. Here is how to cite: [?].

APPENDIX B: TITLE OF APPENDIX

- Begin appendix text on the page following the buffer page
- Continue Arabic pagination; do not restart page numbering with an appendix
- Use the same style and format for buffer page headings as you do for other body chapter headings.
- Letter, don't number, appendixes (e.g., APPENDIX A, APPENDIX B)
- If you have only one appendix, do not letter it at all
- Appendixes should follow the margin and other formatting requirements from the rest of the document

B.1 About References

References appear in the style of your particular reference system. While a hanging indent is preferred, some style guides use alternate formatting. References should be either double-spaced throughout, with no space between entries, or single-spaced within entries with a double space between. Below find a sample reference with a hanging indent, formatting along APA style. Here is how to cite: [?].

LIST OF REFERENCES