B. Herman and J. Roberts

Nuclear Reactor Core Methods

April 3, 2012

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Contents

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PWR Pressurized Water Reactor
BWR Boiling Water Reactor
ANM Analytic Nodal Method

Part I
Fundamentals

Lorem ipsum...

Chapter 1
Neutron Transport Equation

Abstract Each chapter should be preceded by an abstract (10–15 lines long) that summarizes the content. The abstract will appear *online* at www.SpringerLink.com and be available with unrestricted access. This allows unregistered users to read the abstract as a teaser for the complete chapter. As a general rule the abstracts will not appear in the printed version of your book unless it is the style of your particular book or that of the series to which your book belongs.

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1.1 Terminology

Definition of all terms (flux, current etc.) Just a copy paste of 106 notes I am sure

1.2 Derivation of Neutron Transport Equation

Jeremy I am sure you have this done from 106.

Chapter 2
Multigroup Neutron Diffusion Equation

Abstract Each chapter should be preceded by an abstract (10–15 lines long) that summarizes the content. The abstract will appear *online* at www.SpringerLink.com and be available with unrestricted access. This allows unregistered users to read the abstract as a teaser for the complete chapter. As a general rule the abstracts will not appear in the printed version of your book unless it is the style of your particular book or that of the series to which your book belongs.

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2.1 Continuous Energy Diffusion Equation

This section will contain the derivation of the continuous form of the diffusion equation from the neutron transport equation.

2.2 Derivation of Multigroup Diffusion Equation

This section will contain the derivation of the multigroup diffusion equation from the continuous energy diffusion equation

Chapter 3
Finite Difference Methods

Abstract Each chapter should be preceded by an abstract (10–15 lines long) that summarizes the content. The abstract will appear *online* at www.SpringerLink.com and be available with unrestricted access. This allows unregistered users to read the abstract as a teaser for the complete chapter. As a general rule the abstracts will not appear in the printed version of your book unless it is the style of your particular book or that of the series to which your book belongs.

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Chapter 4
Finite Volume Methods

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Chapter 5
Finite Element Methods

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Part II
Reactor Statics

Lorem ipsum...

Part III
Reactor Dynamics

Lorem ipsum...

Appendix A
Chapter Heading

All's well that ends well

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A.1 Section Heading

Instead of simply listing headings of different levels we recommend to let every heading be followed by at least a short passage of text. Furtheron please use the LaTeX automatism for all your cross-references and citations.

A.1.1 Subsection Heading

Instead of simply listing headings of different levels we recommend to let every heading be followed by at least a short passage of text. Furtheron please use the LaTeX automatism for all your cross-references and citations as has already been described in Sect. A.1.

For multiline equations we recommend to use the `eqnarray` environment.

$$\begin{aligned} \mathbf{a} \times \mathbf{b} &= \mathbf{c} \\ \mathbf{a} \times \mathbf{b} &= \mathbf{c} \end{aligned} \tag{A.1}$$

A.1.1.1 Subsubsection Heading

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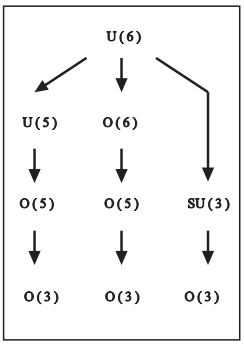

Fig. A.1 Please write your figure caption here

LaTeX automatism for all your cross-references and citations as has already been described in Sect. A.1.1.

Please note that the first line of text that follows a heading is not indented, whereas the first lines of all subsequent paragraphs are.

Table A.1 Please write your table caption here

Classes	Subclass	Length	Action Mechanism
Translation	mRNA[a]	22 (19–25)	Translation repression, mRNA cleavage
Translation	mRNA cleavage	21	mRNA cleavage
Translation	mRNA	21–22	mRNA cleavage
Translation	mRNA	24–26	Histone and DNA Modification

[a] Table foot note (with superscript)

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