

Preface

In the second edition I have updated some of the materials, improved description of some of the fundamental principles and provided more examples with visualizations for easier understanding of the abstract phenomena. For example, an extensive graphical interpretation of neutron transport angular flux, scalar flux or current is provided and discussed. Some of the chapters now end with brief reviews of the application of the chapters concepts in the real world. For example, description of nuclear resonance fluorescence that gains growing attention in homeland security. There are also some more problems listed at the end of each chapter. Overall there is more material in the second than in the first edition covering a broad range of basic principles in nuclear physics, neutron transport and neutron physics of interest in the undergraduate or graduate education in engineering, physics, health sciences or similar.

I am indebted to students and colleagues who pointed out errors in the first edition. I have followed the comments received and tried to incorporate those I have found suitable for the presented scope of this book. In completing the second edition I would like to thank my students who helped with some of the graphics found in Chapters 2, 5, 6, 7 and 8. They are Shanjie Xiao, Nader Satvat, Yang Xue, Kevin Mueller, John Perry and Manuel Szejnberg.

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