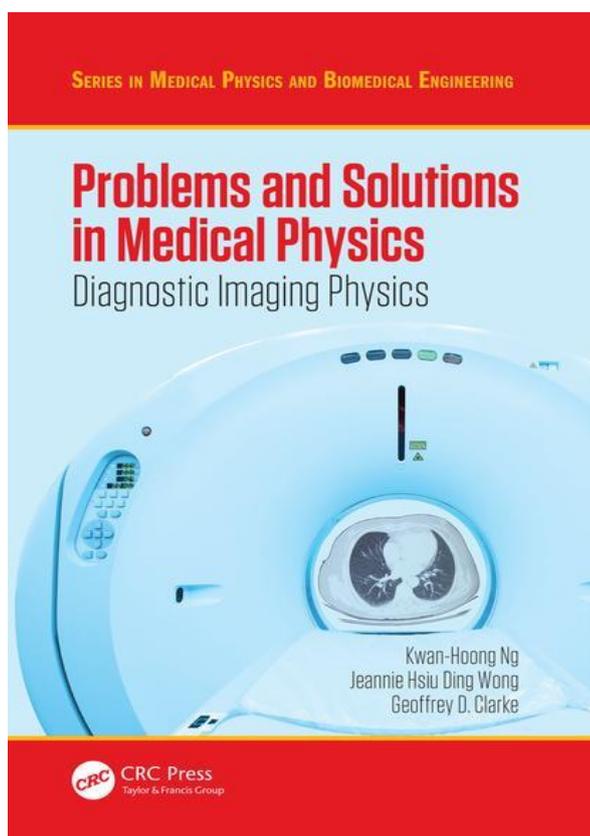


“PROBLEMS AND SOLUTIONS IN MEDICAL PHYSICS – DIAGNOSTIC IMAGING PHYSICS” : A BRIEF OVERVIEW

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Abstract— This article is a brief review of the CRC textbook “Problems and Solutions in Medical Physics - Diagnostic Imaging Physics” by Kwan Hoong Ng, Jeannie Hsiu Ding Wong and Geoffrey D Clarke, 2018, CRC Press (Series in Medical Physics and Biomedical Engineering), ISBN-13 978 1 4822 3995 9



The book “Problems and Solutions in Medical Physics – Diagnostic Imaging Physics” is a publication in support of medical physics education. It comes as part of the CRC Series in Medical Physics and Biomedical Engineering.

The book includes 133 problems with their solutions. These problems are distributed in 11 chapters: Basic Physics; X-ray Production; Screen Film Radiography; Digital Radiography, Image Quality; Mammography; Fluoroscopy; Computer Radiography; Magnetic Resonance Imaging; Ultrasound; Radiation Protection

and Radiobiology. Each chapter includes specific sub-chapters with educational problems.

The problems in the textbook are well chosen, illustrated with diagrams and images. A solution follows each problem, some illustrated and supported by mathematical explanation. The book includes 80 illustrative diagrams. The problems are based on real examples from clinical practice and are in line with the traditional medical physics lectures in University courses and other similar activities.

There are other books related to problems and solutions, which are complemented by the present book. This subject is important as the problems and solutions could be included as Quizzes alongside the lectures, also as part of Examinations. The book can be useful by all colleagues teaching medical physics, but also by students who would like to test their knowledge. Some problems could also be used for advanced students in radiography.

The authors are educators from the University of Malaya and University of Texas. The authors succeeded to make the book useful both for students from Low and Middle Income Countries, and from High Income countries, by including a good selection of problems (e.g. for Screen Film Radiography and for Digital Radiography). The solutions to the problems are presented in a clear way, understandable for both groups of potential users. Such books with problems are always useful for lecturers, as a source of ideas for developing further educational questions and answers.

Special mentioning deserves the authors’ idea to periodically offer online further problems and solutions through the publishers CRC web site: <https://crcpress.com/9781482239959>

This relatively small book of 139 pages, appears to be part of a sequel of additional such textbooks. The Preface of the book mentions two additional books related to Radiotherapy Physics and to Nuclear Medicine Physics (the latter one has just been published and will be reviewed in our next issue). I assume the latter will include more problems and solutions related to Radiation Measurements and Radiation Protection – wide fields of the profession, requiring good testing of students’ knowledge.

The structure of the book makes it easy to navigate. The language is adequate for the purpose. As the book will be useful in many countries, I would suggest the online version to be linked to the Multilingual Dictionary of Medical Physics (www.emitel2.eu) what will help the readers in countries where English is not the first language.

This is a typical book to support the medical physics teaching process (as well as this of related specialties). The book could have significant number of readers from Universities – it will be very useful for lecturers and students in Diagnostic Radiology. One can expect that the sequel of three books, offered by the authors, will support many educational courses around the world.