

# Lecture Notes in Electrical Engineering

## Volume 713

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# Technology Mapping for LUT-Based FPGA

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# Preface

This book is a summary of the authors' many years of research in the field of logic synthesis. These studies concentrated in the areas of function decomposition, technological mapping or recently cyber-physical systems. These issues were the subject of two doctoral dissertations: Adam Opara: "*Dekompozycyjne metody syntezy układów kombinacyjnych wykorzystujące binarne diagramy decyzyjne*" (2009) and Marcin Kubica: "*Dekompozycja i odwzorowanie technologiczne z wykorzystaniem binarnych diagramów decyzyjnych*" (2014) in Silesian University of Technology. The ideas underlying these Ph.D. theses have been developed over the years, which has been the basis of many scientific publications that are referenced in the book.

The motivation for the book was the desire to present comprehensively the issues that the authors have dealt with in recent years. The book is a presentation of a number of ideas published in earlier articles, to which the reader is directed and the appropriate reference materials. This type of approach allows a more complete presentation of the essence of problems and solutions proposed by the authors, meticulously presented in the indicated articles. The authors emphasize that this book is a review, and the original source of ideas presented are the authors' publications and doctoral dissertations, from which the authors took materials necessary to create this book.

We would like to thank the reviewers and colleagues for many valuable comments, which were the inspiration for continuous improvement of developed methods and influenced the final form of this book. We thank wives, daughters and all relatives for invaluable help and understanding.

Gliwice, Poland

Marcin Kubica  
Adam Opara  
Dariusz Kania

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