

# Preface

There are many excellent books for students introducing them to classical complex analysis of one variable, but only a few that cover several complex variables. Thus we were motivated to write such a book, intended as a textbook for beginning graduate students and as a source book for lectures and seminars. We have developed the main ideas of several complex variables in the context of, but without entering into too many technical details of, a very simple geometry, known as Reinhardt domains. Though many students may know little about this topic, we think it is a good start for beginners in several complex variables. Using this as a base, we add to all topics a selection of remarks and hints relating the discussion to the general theory. Some of the chapters or sections, those marked with a star (\*), are more developed than others and can be skipped in a first reading. Moreover, we present some topics that have never appeared in a textbook or are new findings. We hope that these new ideas will motivate the student studying this book to become more deeply involved in the use of several complex variables. Further toward that end, we include in the Bibliography both direct references and a list of monographs and textbooks in complex analysis, thus providing a source for expansion on topics in our book and extensions to new studies.

The book contains many exercises that the reader is asked to work on when encountered, before proceeding with further topics. There are also many points in the proofs that we have marked EXERCISE. By this we mean that the reader should write out the argument in more detail than we have done, to assure mastery of those details in preparation for what is to come. We believe that the study and understanding of mathematics requires continuous interaction between the reader and the text, and this cannot be achieved by passive reading. From time to time we pose open problems (marked by  $\boxed{?}$ ... $\boxed{?}$ ) that to the best of our knowledge have not yet been solved. We encourage the reader to try to solve them and would be most grateful to hear about such attempts, both successes and interesting failures.

Note that at many places, in order to simplify formulations, some obvious assumptions that guarantee that the considered objects are non-empty are not stated. For example, if we write “Let  $D \subset \mathbb{C}^n$  be a Reinhardt domain...”, then we always automatically assume that  $D \neq \emptyset$ . We think that the reader will easily be able to complete the missing assumptions. In the interest of consistency of form and notation, we sometimes send the reader to [Jar-Pfl 1993] or [Jar-Pfl 2000] instead of quoting the original research paper. We nevertheless encourage the reader to seek out those original works in their further studies.

During the process of proofreading we detected some gaps and misprints. Our thanks go especially to Dr. P. Zapałowski who helped us during that process. Nevertheless, according to our experience with former books, we are sure that a number of errors remain about which we would be happy to be informed.

We would be pleased if the reader would send any comments or remarks to one of the following e-mail addresses

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