

Preface

This monograph contains material from several research papers and lectures I gave in Bonn, Leipzig, New York, and Fribourg on various occasions, all of them about different aspects of the same problem. In an attempt to make the work nearly self-contained, I also included many additional paragraphs and most of the proofs of the auxiliary results. It is assumed, however, that the reader is familiar with the basic theory of linear elliptic and parabolic partial differential equations, and with the elementary notions of Riemannian geometry.

The aim of the book is to explain the methods that have been developed in the last decades to prove partial regularity for harmonic maps, and also to show how these methods can be extended to related problems. This includes perturbations of the harmonic map problem as well as associated parabolic problems. Both types may be of interest in applications from physics or possibly other sciences.

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