PREFACE

Preface

Alexander Zimmermann[1]

In this volume you will find a rather long survey article on differential geometry, more precisely on moduli spaces for Higgs bundles.

The article gives a fairly detailed, comprehensive and up to date survey on Higgs bundles. The article starts with an introduction to moduli spaces and examines questions of general interest in this subject. Then the special case of Higgs bundles is considered and it is shown how many different subjects interact here. The link to problems in mathematical physics is presented at numerous places, and many further applications can be found. Finally a list of open problems with their current state of knowledge is displayed. A long bibliography provides sources for further studies. We hope that this survey article on this very active field of research will be useful and interesting, and specialists as well as non specialist readers with interested in this highly active branch of differential geometry will benefit.

In this volume you will further find three book reviews, one on Beggs' and Majid's book on Quantum Riemannian Geometry, one on the new book on Singular Algebraic Curves by Greuel, Lossen and Shustin, and a third one on the book on Time-Frequency Analysis of Operators by Cordero and Rodino.

I hope you enjoy this new volume of the Jahresbericht.

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