

To my wife Angela for inspiration and constant support

# Preface

This book was based on notes which were prepared as a guide for lectures of one semester course on Geometric Mechanics. They were written inside the level of a master course. I started some years ago teaching them at the “Instituto de Matemática e Estatística” of the “Universidade de São Paulo”, and, more recently, at the “Instituto Superior Técnico” of the “Universidade Técnica de Lisboa”.

The spectrum of participants of such a course ranges usually from young Master students to Phd students. So, it is always very difficult to decide how to organize all material to be taught. I decided that the expositions should be self contained, so some subjects that one expects to be interesting for someone, result, often, tedious for others and frequently unreachable for a few ones.

In any case, for young researchers interested in differential geometry and or dynamical systems, it is basic and fundamental to see the foundations and the development of classical subjects like Newtonian and Relativistic Mechanics.

I wish to thank a number of colleagues from several different Institutions as well as Master and PhD students from São Paulo and Lisbon who motivated and helped me with comments and suggestions when I was writing this text. Among them I mention Jack Hale, Ivan Kupka, Giorgio Fusco, Paulo Cordaro, Carlos Rocha, Luis Magalhães, Luis Barreira, Esmeralda Dias, Zaqueu Coelho, Helena Castro, Marcelo Kobayashi, Sónia Garcia, Diogo Gomes and José Natário. I am also very grateful to Ms. Achi Dosanjh of Springer-Verlag for her help and encouragement; it has been a pleasure working with her and her Springer-Verlag colleagues. Thanks are also due to Ana Bordalo for her fine typing of this work and to FCT (Portugal) for the support through the program POCTI.

Lisbon, May 2002

*Waldyr Muniz Oliva*



<http://www.springer.com/978-3-540-44242-4>

Geometric Mechanics

Oliva, W.M.

2002, XII, 276 p., Softcover

ISBN: 978-3-540-44242-4