

Foreword

This „Festschrift“ is dedicated to

Prof. Dr.-Ing. habil. Tekn. Dr. h.c. Dr.-Ing. E.h. Dr. h.c. Erik W. Grafarend

in honour of his 60th birthday. The two volumes of this „Festschrift“ cover a broad spectrum of geodetic research and mirror his scientific contributions and widespread scientific interests. Prof. Grafarend's scientific work spans from the rotation of a gyroscope to the rotation of the Earth as described by a deformable, viscoelastic body. It also covers geodetic sensors, from theodolites to inertial systems, from photogrammetric cameras to artificial Earth satellites.

Prof. Grafarend's major scientific contribution is towards a unified theory of Geodesy. In working with the gravitational field of the Earth he used the disciplines of Geodesy and Physics, of geometry space and gravity space, and beautifully showed the interrelationship between these models. This enjoyable interplay between these disciplines lead him to a unified approach towards geodesy: For example, the motion of a satellite, the trajectory of a light ray and the course of a plumbline can all be interpreted as geodesics - curves of minimal distance on some properly chosen space-time manifold. Prof. Grafarend also looked at the statistical nature of the geodetic measurement processes. It is therefore not surprising that he has written many important papers on adjustment theory and statistical inference.

No area of geodetic interest has been neglected by Prof. Grafarend to achieve a unified theory of geodesy. His scientific work in totality looks like the geodetic version of the „Glasperlenspiel“ by Hermann Hesse with its never resting „magister geodesiae“ Prof. Grafarend in its centre. In that sense these two volumes of papers written by internationally acknowledged scientists give a timely and representative overview over geodesy, as Prof. Grafarend sees it. It also becomes obvious how many people have been stimulated by his ideas and visions, and wish to express their respect and gratitude on the occasion of his 60th birthday.

The editors appreciate all the work by the authors of „Festschrift“.

Friedhelm Krumm

Volker Schwarze

Stuttgart, October 1999