

# **PROCEEDINGS**

**IMAGE PROCESSING - INTERACTIONS WITH  
PHOTOGRAMMETRY AND REMOTE SENSING**

**INTERNATIONAL SYMPOSIUM HELD IN  
GRAZ, AUSTRIA, 3-5 OCTOBER 1977**

**EDITED BY FRANZ W. LEBERL**

**MITTEILUNGEN DER GEODÄTISCHEN INSTITUTE DER  
TECHNISCHEN UNIVERSITÄT GRAZ  
FOLGE 29**

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## PREFACE AND ACKNOWLEDGEMENT

This volume contains 43 articles submitted to the "International Symposium on Image Processing -- Interactions with Photogrammetry and Remote Sensing", 3-5 October 1977, at the Technical University in Graz, Austria. The meeting was initiated by the Working Group on Image Processing of Commission III of the International Society for Photogrammetry (ISP), in co-operation with the Austrian Solar and Space Agency (ASSA) in Vienna, Austria. The Institute for National Surveying and Photogrammetry of the Technical University in Graz, under the direction of Prof. DDr. K. Rinner, acted as the host.

The technology of digital image processing has been addressed within ISP for the first time at the Ottawa-Congress in 1972 in several presented papers, and at the 1976-Congress in Helsinki in one Invited Paper. Since the Helsinki-Congress a Working Group was formed within Commission III of ISP for this new technology. A main objective is the coordination of international meetings of photogrammetrists, remote sensing and image processing experts. This is to stimulate application, research and teaching of image processing in photogrammetry and remote sensing with an emphasis on mathematical aspects. This type of stimulus is considered to be particularly important during the early involvement in the new technology since it's roots have been in fields different from those traditionally represented by ISP.

The authors of the papers at the Graz-meeting are from 12 different countries. Therefore the papers should provide a world-wide review of image processing activities. The obvious diversity in level of effort, involvement, know-how etc. that exists in different countries and organizations must and should be reflected in this volume.

The symposium was announced with the intention of focussing - among others - on the interaction of image processing and *photogrammetry*. From the presented papers it is obvious that considerable image processing efforts relate to *remote sensing*, while interactions with *photogrammetry* did get comparatively modest attention. One may well conclude that digital image processing does not yet have great impact on the solution of traditional photogrammetric tasks (stereo-correlation, orthophotography, line-detection, pattern recognition etc). However, *all-digital photogrammetry's* time will come. We may be confident that this will be borne out at future image processing meetings within the frame of ISP.

The purpose of publishing these Proceedings is to provide a record of the material presented at the meeting in Graz. This should benefit both those who attended and those who could not participate. Emphasis is on the completeness of the record. This could only be achieved by choosing a most economical method of publication, otherwise costs would simply have been prohibitive. The method chosen permitted to reproduce the more than 700 pages of original manuscripts and illustrations on only 250 pages. Color photography is reproduced in black and white. Readers interested in the original color illustrations are requested to contact the authors (for addresses see "List of Participants").

For most authors of the papers, for the editor and typist English is a foreign language. It is hoped that readers will overlook the natural results of this handicap.

The symposium was organized by the three above-mentioned bodies (ISP-Working Group, ASSA, Technical University Graz), but it would have been absolutely impossible without generous financial support. Such support for both the symposium and subsequent publication of the Proceedings was received from:

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