

Report of the 1990 Inter-Congress Symposium of ISPRS Commission II Progress in Data Processing and Analysis

FROM 8 to 12 September 1990 Commission II of the International Society for Photogrammetry and Remote Sensing (ISPRS) staged an international symposium on the subject "Progress in Data Processing and Analysis," which reflected the achieved state of development and simultaneously served as preparation for the next International ISPRS Congress.

The invitation of the Commission President, Prof. Dr.-Ing. Klaus Szangolies of the Technical University Dresden, was accepted by 81 specialists from 16 countries.

On Saturday, 8 September, Messrs. Carl Zeiss JENA GmbH had organized an excursion to Leipzig. The informative visit to the Leipzig Autumn Fair, where particular attention was given to the photogrammetric and geodetic instruments for gaining and processing geoinformation, was supplemented by a city sightseeing tour.

At the official inauguration of the Symposium on 9 September, the Commission President, Prof. Szangolies, welcomed about 130 participants. After the welcome extended to the participants by the President of ISPRS, Professor Dr. Kennert Torlegard (Sweden), the Chairman of the "Society for Photogrammetry and Remote Sensing in the GDR," Dr.-Ing. J. Pietschner, outlined the importance of the work of Commission II in the ISPRS (see *Vermessungstechnik*, Berlin 88 (1990) 7, p. 221). The Congress Director of ISPRS for the 1992 Congress, L. W. Fritz (USA), gave a slide lecture on Washington, D.C., presenting it as the place of the 1992 Congress and expressed in cordial words his invitation to the XVII ISPRS Congress. Then Prof. K. Szangolies summarized the advances made in data processing and analysis in photogrammetry and remote sensing (see *Vermessungstechnik*, Berlin 38 (1990) 7, p. 218). In a forum headed by Dr.-Ing. sc. techn. R.-P. Mark, instrument producers spoke on their hardware and software offerings (J. Saile, Carl Zeiss, Oberkochen; S. Walker, Wild-Leitz, Heerbrugg, Switzerland; H. Yzermann, Russikon, Switzerland; and W. Kunze, Carl Zeiss JENA).

In the Technical Sessions of the five working groups of Commission II and of the three Intercommission Working Groups, reports were given on the state, the progress achieved, and the development trends of the technical field. Because the tasks and aims of Commission II and of the working groups were set forth in the contribution of Dr. Szangolies (see *Vermessungstechnik*, Berlin 38 (1990) 7, p. 215), only the lecturers and the titles of the papers read are listed below (the lecturers and paper titles are not always identical with the authors or titles as submitted to the Symposium). Concerning the contents of the papers, reference is made to the proceedings which will be published by the end of 1990 as Volume 28 - Part 2 - of the *International Archives for Photogrammetry and Remote Sensing*, which can be procured through the Presidency of the Chamber of Technology (Coding 7901/90), Box 1315, D-1086 Berlin at the price of \$50 (US).

WG II/1: ANALYTICAL PLOTTERS

Chairman: Morris L. McKenzie, USA

1. D. Wilkins, Switzerland

Digital photogrammetric applications with the Prime-Wild S-9 analytical plotter

2. G. Bauer, Jena
The Dicomat analytical plotter—a photogrammetric image restitution system of Carl Zeiss JENA.
3. R.-P. Mark, Jena
The restitution of KFA-1000 photographs with the Dicomat analytical plotter.
4. M. G. Gerenscer, Hungary
The computer-assisted Analpret restitution instrument for training and interpretation.

WG II/2: SYSTEMS FOR THE ANALYSIS OF REMOTE-SENSING DATA

Because the chairman and his proxy were not able to attend, and due to the lack of contributions, the session had to be cancelled.

WG II/3: SYSTEMS FOR RECEPTION, RECORDING, PREPROCESSING, ARCHIVING, AND DISTRIBUTION OF REMOTE-SENSING DATA

Chairman: Fred C. Billingsley, USA

1. P. Lieckfeldt, Neustrelitz
A high-speed storage unit with integrated data base processor for image data. (*Vermessungstechnik* (1990) 7, p. 231)
2. Dr. Felske, Neustrelitz
Adaptive image coding technique for the thematic compression of digital weather images.
3. E. Ya. Falkov, USSR
Systems for reception and storage of the background of images in the wavelength region from 0.4 to 14 micrometres.
4. F. C. Billingsley, USA
Summarizing report on
- Data distribution possibilities in the future.
- Standard technique for self-defining data structures for archiving and transfer of information (SFDU).
- Language requirements and notation for the understanding of retrieved data (TSDN).

WG II/4: SYSTEMS AND EQUIPMENT FOR THE PROCESSING OF SAR DATA

Chairman: H. Weichelt, Potsdam

1. H. Weichelt, Potsdam
Reading an abridged version of the paper entitled "Concepts for precision SAR processing systems at the DLR," submitted by the WG Chairman, who was unfortunately prevented from coming.
2. H. Weichelt, Potsdam
Some results of microwave measurements during the intercosmos experiments GEDEX, TELEGEO and CARIBE.

3. K. Schmidt, Potsdam
Data processing and analysis for the investigation of bio-productivity in tropical agricultural areas.

WG II/5: INTEGRATED PHOTOGRAMMETRIC SYSTEMS

Chairman: Atef A. Elassal, USA

1. K. Jacobsen, Hanover
Off-line and on-line applications of macro-photogrammetry.
2. P. Lohmann, Hildesheim
Digital photogrammetric work stations.
3. R. C. Malhotra, USA
The integration of the NOS system for camera calibration into the integrated digital photogrammetric facility.
4. B. Makarovic, Netherlands
Analytical versus digital photogrammetric systems.
5. A. A. Elassal, USA
Open photogrammetric systems.

IC WG I/II: ACQUISITION AND USE OF SPACE PHOTOGRAPHIC DATA FOR MAP PRODUCTION AND MAP REVISION

Part 1 - Chairman: V. Kiselev, USSR

1. H. Weichelt, Potsdam
Advances in space photography.
2. I. Nenashev, USSR
The MK-4 multispectral camera.
3. V. Kiselev, USSR
Instruments for the color coding of photographs taken with the MK-4.
4. L. M. Matiyasevich, USSR
Photogrammetric technique for mapping the relief in optically homogeneous terrain.
5. L. M. Matiyasevich, USSR
A technique for determining the brightness and spatial frequency characteristic of a terrain from aerospace photos.

Part 2 - Chairman: K.-M. Marek, Potsdam

1. O. Kolbl, Switzerland
Analogue or digital map production from aerial photographs?
2. E. Pross, Leipzig
Description of digital photogrammetry by functional analytical methods. (*Vermessungstechnik* (1990) 7, p. 222)
3. E. Bach, Berlin
Modular concept of an aircraft-borne system for the acquisition, processing and analysis of remote-sensing data.
4. A. Weng, Berlin
Experimental aircraft remote sensing with infrared scanner and panchromatic CCD row.
5. H. Hirsch, Berlin
Real-time correction of geometric distortions in aircraft-borne remote-sensing systems.

Part 3 - Chairman: J. Pietschner, Dresden

1. E. B. Maslovsky, USSR
Common use of spectrozonal images and radiothermal microwave recordings for the solution of interpretation tasks in space photography.
2. K. Jacobsen, Hanover
Cartographic potentialities of space photographs.
3. A. V. Pertsov, USSR
Effective technologies for geological projects and nature

conservation studies in the USSR on the basis of aerial photography and satellite photographs.

4. W. Schubert, Wolfen
Distinguishable details in aerial photographs.
5. V. Kiselev, USSR
Summerizing comments on the activity of the Intercommission WG "Space Photography."

IC WG II/III: DESIGN AND ALGORITHMIC ASPECTS OF DIGITAL PHOTOGRAMMETRIC SYSTEMS

Chairman: H. Ebner, Munich

1. I. Dowman, Great Britain
Advances and possibilities of digital photogrammetric work stations.
2. A. Grün, Switzerland
DIPS-II: Use of a standard computer workstation in a digital photogrammetric station.
3. E. Pross, Leipzig
Consequences of a photogrammetric view of solving special tasks of digital photogrammetry with serial computers (*Vermessungstechnik*, Berlin 38 (1990) 7, p. 224)
4. J. Storl, Berlin
A digital stereophotogrammetric system - current developments at the Technical University Berlin.
5. S. Murai, Japan
Low-priced photogrammetric systems - stereotizers.

An additional report was given by
W. P. Segu, Tanzania
Polynomial adaptation by the least-squares method with overlapping data.

The main subjects of the final session included comments of the President of Commission II on the future organization of the work of Commission II and suggestions regarding appointments of chairmen of WG II/2 (new WG Chairman: Prof. Ehlers, Netherlands) and of WG II/4 (new WG Chairman: Dr. Weichelt, Potsdam). In addition, the tasks to be performed for the period up to the XVII ISPRS Congress in 1992 were defined.

From all papers read, participants were able to get a comprehensive survey of the present state of development of the special field. One primary observation is that there has been a shift in emphasis since the last Congress from primarily optical instruments to computer-assisted optical instruments and computerized analysis.

Technical excursions were offered to interested participants who had the possibility of visiting the Technical University Dresden, Department of Geodesy and Cartography, the Engineering College for Geodesy and Cartography Dresden, and the Dresden institute archive of photographs used for the preservation of monuments.

A steamer excursion on the Elbe river with the "Weisse Flotte" in the evening and, last but not least, an official reception given by the Lord Mayor of the City of Dresden in the Louisenhof Restaurant on the Elbe banks of Loschwitz-Weisser Hirsch offered opportunities for deeper penetration into technical subjects and for establishing personal contacts.

Another outcome of the Symposium was that the Boards of the two national Societies for Photogrammetry and Remote Sensing in Germany resolved on the unification of the two societies and agreed on ways and procedures for future work in a friendly and constructive atmosphere (see *Vermessungstechnik*, Berlin (1990) 12 p.).

—Manfred Seyfert, GDR
—Fred Billingsley, USA