

CEI IN PHOTOGRAMMETRY - HELP TO REFORM COUNTRIES

Vlastimil Hanzl , Institute of geodesy, TU Brno, Czech republic

Commission VI, Working Group 4

KEY WORDS: Education, Training, International Cooperation, ORIENT.

ABSTRACT:

The paper deals with the project pointed to help for reform countries. The courses were took place for photogrammetrics from universities of middle and south-eastern Europe at Institute for Photogrammetry and Remote Sensing TU Vienna. Obtained experiences and knowledge help to improve quality of photogrammetry education in reform countries.

3. ORIENT AT TU BRNO

1. INTRODUCTION

In the year 1991 was started in Austria the project arising from cooperation of states CEI (Central Europe Initiative, former Pentagonala). Institute for Photogrammetry and Remote Sensing TU Vienna invited several teachers of photogrammetry from reform countries to take part in photogrammetric courses ORIENT and SCOP. ORIENT is universal program system intended for determination of points by adjustment in photogrammetry developed in TU Vienna. The conception of ORIENT was presented in 1976 (Kager, 1976) and applied to practice in 1978 (Kager, 1980). The system was expanded in next years.

2. ORIENT COURSES

The first course (1991) served to introducing with program system. The structure of program system were explained for participants of course. For handling with basic modules of ORIENT were used two demoprojects: phototriangulation around a large building and aerotriangulation. Each from took part universities obtained program system ORIENT at the end of course. Second one (1992) , we can say advanced course, was aimed on special tasks as calibration non-metric camera, right using of robust adjustment, creation of CMD procedures and etc. The third and fourth courses(both 1994) were pointed on to presentation of practical applications of participants. Fourth course was took place in Kocovce (Slovakia) as ORIENT seminar. The reports were collected in proceedings. The papers dealt with calibration non-metric cameras, deformation lock gate, measurement of spatial form of suspended cable bridge, monitoring landslide territory , using of ORIENT in education and medicine, plotting of area fracture surface of rock material.

At Institute of geodesy TU Brno is ORIENT used mainly in teaching. In the basic course of photogrammetry in third year of study is ORIENT used for solution of single task - phototriangulation with only several images and demonstration of aerotriangulation. There are good conditions and sufficient time in arbitrary courses for solution of various photogrammetric tasks in fourth and fifth years of study. For learning we prepared a brief text about ORIENT in Czech language. These arbitrary courses attend groups having 8 - 10 students. I regard as the best use of ORIENT in students' theses. From 1992 until 1996 was program system used in 14 theses for aerotriangulation, camera calibration, architecture purposes, archaeology, creation maps from archive images for environmental protection (Hanzl, 1995). Some difficulties with learning of ORIENT are compensated with interest of students to work on interest projects.

4. INTERNATIONAL COOPERATION

The program system ORIENT was used for many tasks. One of them was CIPA test "O. Wagner Pavilion". The test object is one of the Otto Wagners Station buildings on the Karlsplatz in Vienna. The aim of the test was to compare: software, different cameras, measuring devices, etc. and test 3x3 rules of CIPA. Specialists from 15 institutes have been participated in this project. The set of 52 images have been disturbed to participants of second course. The results were sent to evaluation to P. Patias from University of Thessaloniki, Greece. It was unique opportunity to take part in international project for some ORIENT project participants and we also obtained good material for teaching and training.

5. CONCLUSION

The specialists from following countries have took part in ORIENT courses: Bulgaria (Sofia), Croatia (Zagreb), Czech republic (Brno, Prague), Hungary (Budapest), Rumania (Bucharest), Slovakia (Bratislava), Slovenia (Ljublana). The aim of project was to provide program systems in order to improve knowledge of teachers from reform countries. It means of course increasing quality of education in field photogrammetry. The important contribution of project also has been the possibility to meet with specialists from many universities, to discuss many questions and opinions - special and social as well. Therefore I would like to express the great acknowledgement of Institute of photogrammetry TU Vienna for this help .

References:

Hanzl, V., 1995. Temporal analysis of chosen phenomena based on archive aerial images. Exploration Geophysics, Remote Sensing and Environment, 2 (1), pp. 41 - 45.

Kager, H., Kraus, K., 1976. Gemeinsame Ausgleichung photogrammetrischer, geodetischer und fiktiver Beobachtungen. In: International Archives of Photogrammetry, Helsinki, Finland, Vol. XXI/6.

Kager, H., 1980. Das interaktive Program system ORIENT im Einsatz. In: International Archives of Photogrammetry and Remote Sensing, Hamburg, Germany, Vol. XXIII , Part B5, pp. 390-401.