SUMMARIES

Józef Beluch: **Precise Accuracy Evaluation of Transformation Parameters and Point Coordinates upon Helmert Transformation** • Geomatics and Environmental Engineering 2008, Vol. 2, No. 3

The paper describes two models for determination of Helmert transformation parameters with consideration of coordinate weights as pseudo-observations in common point primary and secondary systems. Precise procedure developed in the initial stage allows to determine those parameters and evaluate their accuracy. Coordinates are transformed from primary to secondary system in the subsequent stage. Both mean square errors of transformation parameters as well as mean square errors of transformed coordinates have effect on coordinate accuracy. Taking that into consideration, formulas allowing the development of accuracy evaluation of point transformed coordinates were derived. The publication draws attention to a need for optimum selection of weights when transformation parameters are determined; by using analysis of variance coefficient, based on verification of statistical hypotheses. Proposed description of transformation parameters evaluation and coordinate accuracy after transformation may be generally used with other methods of transformation.

Keywords: coordinate transformation, accuracy evaluation of transformation parameters, accuracy evaluation of coordinates transformation, Helmert transformation

Tadeusz Zbigniew Dworak: **Lwów and Lódź. Comparison of History and Environmental Conditions** • Geomatics and Environmental Engineering 2008, Vol. 2, No. 3

This paper contains a comparison of historical and environmental conditions of two large city centres – Lwów (Lvov) and Łódź (Lodz), which are located in unfavourable zones in the geographical sense, on catchments of main big rivers: Vistula and Dniester (Lwow) and Vistula and Oder (Lodz). This causes determined environmental problems, mainly because of some difficulties of water supply (drinking and industrial). In the case of Lódź the worthing of environmental conditions became additionally because of intensified industrial development during the XIX and XX centuries and it is also proved by multi-spectral satellite images.

Keywords: urban development, history, environmental conditions, water, satellite images.

Timi Ecimovic: **Climate Change System. Introduction. Part 2** • Geomatics and Environmental Engineering 2008, Vol. 2, No. 3

Contemporary sciences approach with use of system theory, complex problem solving, case studies and system thinking are offering new horizon for understanding the natural sciences and the climate change system issues. Novelty is understanding of holistic nature of the Universe. System approach has been applied and history of happenings and evolvements are presented at this part of the presentation and where we continue with description of the Earth, Biosphere and the Nature actual working systems. As main action are Interdependences, Interactions and Co-operations of the Life, Climate Change System, and Biosphere. More emphases have been put at the system thinking and its values for understanding the Nature.

Keywords: Universe, interaction matter, energy, information, particles, rays, climate change system, living conditions on the planet Earth

Teresa Eckes, Tadeusz Gołda: **Total Nitrogen Content as the Abundance Indicator for Autogenous Soils. Discussion Article** • Geomatics and Environmental Engineering 2008, Vol. 2, No. 3

It is proposed in the paper to use total nitrogen content as one of the indicators determining organic mater abundance in autogenous soils. Specified abundance classes, calculated using a uniform methodology, allow to classify soils on the basis of measurable values, which are easy to verify. The computed nitrogen abundance may constitute one of the most important indicators when attempting to develop a "new classification", in which soil subject to valua-tion will be classified only on the grounds of results obtained during laboratory determina-tions. The database created in this way will facilitate preparation of numerical soil maps and will make it possible to incorporate them into the geodesic land information system (GIS).

Keywords: nitrogen content, soil abundance, soil valuation

Elżbieta Jasińska, Edward Preweda, Jan Ruchel: **The Comparison of Some Aspects of Appraiser (Valuer) Profession in Poland and Belgium** • Geomatics and Environmental Engineering 2008, Vol. 2, No. 3

The article shows the rules of acquiring the licence by appraisers in Poland and Belgium (as a typical-basic country of European Union). The scope of obligation and responsibility standards for profession executing have been contrasted. The comparison shows that the procedure of acquiring license in Poland is definitely longer and more for-

malized. However, in Belgium it is not allowed to combine the profession of real estate valuer with other professions.

Keywords: real estate valuation, appraiser, surveyor, real estate valuer, licence of property valuer

Daniel Nindl: **Comparable Parameters for the Qualification of Surveying Tripods** • Geomatics and Environmental Engineering 2008, Vol. 2, No. 3

The article below describes the investigation of different parameters which could be taken as a basis to qualify tripods as certain surveying accessories. Widely accepted as accessory that is not supposed to create any kind of problems the trust in these types of survey products is very high. Nevertheless there are cases where it might be of interest which characteristics (accuracy) the particular tripod has. For this purpose the ISO-standard [1] defines certain parameters, however, the behaviour of tripods under dynamic load was furthermore considered. The main test results are finally summarized in table 1.

Keywords: tripod, hysteresis, height stability, Hz-drift, torsional rigidity, surveying accessories, high precision measurements, motorization, load reversal, aluminium, fibreglass, wood

Elena Neverova-Dziopak: **Ecological Rating of Mercury Ions in Water Bodies** • Geomatics and Environmental Engineering 2008, Vol. 2, No. 3

Heavy metal compounds are toxic for human health and water biota. Furthermore the metal salts can inhibit the process of photosynthesis and biochemical oxidation of organic substances in water that brings to the violation of ecological equilibrium and degradation of water ecosystem. All European countries established the permissible concentrations of mercury in water for different types of water usage (water supply, fishery, recreation). The established water quality standards not always take into account the interest of water ecosystems and provide ecological security for surface water. Hence, in order to provide the ecological equilibrium of surface waters it is necessary to elaborate the ecological standards of water quality. Methodology of ecological standards' elaboration is presented in the paper. On the base of elaborated ecological standards the permissible loads of pollution can be estimated that do not exceed the ecological capacity of water ecosystem. Such approach enables the elaboration of ecologically and economically proved technical and organization measures aimed to the preservation of surface water good ecological state.

Keywords: ecologically permissible concentrations, biotic balance, regression model, ecological capacity.