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Content and Abstracts

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Abstract – ***The paper refers to the hydraulic computation of reach correlation at spillway dam. There are presented the deficiencies of recommended method in Romanian technical reference literature for spillway flow. It is also proposed a systematization of the computation, tacking into account the real flow structure, including self aerated region.***
***Keywords*: reach correlation, boundary layer flow, self aerated flow**

***Abstract* – By applying Rajaratnam's equation for hydraulic jump in self aerated flow, it is emphasized a reduction of stilling basin length about the case of no aerated flow.**
***Keywords*: reach correlation, self aerated flow, hydraulic jump, stilling basin**

***Abstract* – Long river collaboration between experts from Technical University of Bucharest (UTCB) and other design on research institutes from Romania (ISPIF, ISPH, ARH) and the beneficiaries of the projects in the field of phreatic waters depolution (PETROBRAZI, PETROMIDIA, RAFO-ONEŞTI)produced new solution and approaches. These are based on complex in situ studies lab works, hydro technical and hydro geological originality. In the paper is presented in a short form the behavior of the water depolution solutions applied on the above mentioned oil refinery sites**
***Keywords*: oil refinery sites, phreatic water depolution efficient solutions**

***Abstract* – In the last 45 years major negative modifications on the Danube Delta took place. That means the reducing of the birds number but also flora and fauna modifications. This phenomenon was monitorized by Romanian authorities from other European countries, for example Germany, The Netherlands but also USA. For the European country to find an explanation of the phenomena is important in order to avoid for the future similar work which produce birds migration and ecosystem modifications. The paper presents the effects and their causes in order to find and sustainable management in the future for Danube Delta.**
***Keywords*: Danube Delta, natural conditions, flora, fauna, ecosystem**

***Abstract* – Water losses from sanitation systems produce phreatic water level arising with unfavorable effects on environment (land falls)ions buildings. To reduce these effects the first efficient method is to depressioning on the phreatic levels by drainage systems. For a long period the horizontal drainage was applied in Romania with low results because of short length (less than 40 m). The proposed technology ensure the laying of the horizontally drains with long lengths (up to 300 -350 m).The paper presents the results of studies and researchers by numerical modeling, hydraulic simulation with the effects of the depressioning of phreatic levels in different projects (i.e. Suceava, 1996, Galati 1998.**
***Keywords*: water losses, phreatic levels, horizontal drainage system, new technologies**

***Abstract* – The need for optimum use of land has never been greater than at the present, when rapid population growth urban expansion are making available for agriculture a relatively scare commodity. The slug dump is located at 10 km of Timisoara city, on the Sînmihaniu Roman land with a surface of 50 ha. This slug dump represents a real risk for the environment and the population. Data obtained from soil, water spontaneously and cultivated vegetation indicated the negative impact, especially by storage dust and heavy metals.**
***Keywords*: slug dump, soil water, impact**

***Abstract* – Geosynthetic products doesn't represent anymore a news in engineering works, existing today laws and standards which regulates their usage in different fields. The development that get the usage of the geosynthetic products in the last years can be explained on the one side by natural product replacement and on the other side because of their high performances. This products appeared 40 years ago and still further diversified, in many cases a certain product being produced exclusive for a given project. Water constructional works certainly represents one of pioneer field for the geosynthetics products and one of the full possibilities for their usage.**
***Keywords*: geosynthetics products, technical performances and characteristics, water structures**

***Abstract* – Stability of the river courses and the protection of bordering bands are maintained through bank consolidation. There are presented six types of arrangement. For each type is colmated the special investment needed for 1 m^2 of consolidated bank. The solution providing both small values of investment and maximum hydrological efficiency are recommended.**
***Keywords*: break out, gabions, riprap, faggot, investment**

***Abstract* – The world-wide preoccupations manifested in the last two decades concerning the introduction of new quality concept in many domains drown attention of the Romanian scientists. Also this time is necessary the interdisciplinary collaboration of the experts from interfacing fields to implement and realize in a certain studied field the associated quality concept. The paper presents the studies concerning the introduction of the quality concept in the field of environmental engineering in Romania, member of international organization. The researches from Technical University of Civil Engineering from Bucharest in association with Romanian authorities are working together to introduce new technologies end exploitation methods for water industry and environment quality.**
***Keywords*: quality concept, interdisciplinary, water industry, environment quality**

***Abstract* – In the paper is presented a theoretical relative study for the working stage of a hydro-electrical power station, in two operating conditions: a. taking the benefit of the available head, depending by time; b. taking the benefit of only the maximum head. For each operating condition there is determined the yearly produced power. In the end, the favorable operating condition is emphasized based on the maximum produced power criteria.**
***Keywords*: water flow, hydraulic head, efficiency, hydropower, mean yearly electric-power**

***Abstract* – The paper is intending to present an up to date structural analysis at the lock chambers with central temporary joint. This kind of lock chamber with particular characteristic of its structure offers an interesting field of study of the constructed elements. The analysis is focused on the Romanian lock chamber located on Iron Gate I arrangement on Danube River.**
***Keywords*: gate chamber wall, central temporary, joint, finite elements, solid**

***Abstract* – Once the computers have developed extensively in last few years, so has the method for computation of the civil engineering structures. Coastal structures in particular are complex and new models for computation have emerged. This paper presents a mathematical model, using the artificial neutral network method, to compute the optimum height of the vertical breakwaters. The method is illustrated in the example and compared with Goda's classical method. The method proved to give very good results if enough measurements were taken at the site where the breakwater was built. condition is emphasized based on the maximum produced power criteria.**
***Keywords*: vertical breakwater, artificial neural networks, coastal structure design**

***Abstract* – In the paper the finite element method is considered in order to determine the stress and strain state in the structure of a lock gate from H.P.S Iron Gates. The calculated results are compared with results from in-situ measurement.**
***Keywords*: navigation lock gate, stress, finite element method, in-situ measurements**

***Abstract* – The paper presents the way by which using finite elements, the vibratory roller – compacted material system behavior can be determined. The dynamic system was considered in two different situations, with one and with two degrees of freedom. The system's answer was established over one oscillating period of the vibrating device for two specific situation of the compacted material dry density, each at several levels for the moisture content. The**