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CONTENT AND ABSTRACTS**

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Gheorghe I. Lazăr, Gh., Nicoara, S.V., Constantin, T.A., Popescu Bușan, A., Accidental Overflow Modeling for the Timis River on Section Șag – Grăniceri – Serbian Border, APRIL 11 – MAY 5, 2005.....3

***Abstract** – **Abstract** – *The paper presents a reconstruction of the accidental overflow developed in April – May 2005 on the section Șag – Grăniceri – Serbian border of Timiș River. This reconstruction was achieved by digitally simulating the embankment failure on the right bank, downstream of Crai Nou. The water volume spilled through the three formed gaps, that flooded large areas, was also estimated.**

***Keywords:** numerical modeling, high waters, embankment failure, flood, polder, water level, water flow*

Beilicci, E., Beilicci, R., Ștefănescu, C., The influence of domain gridding method regarding solid flow evaluation in a hydrographical basin13

***Abstract** – *This paper tries analyzing the influence on gridding method of land surface modeling on solid flow evaluation in a small hydrographical basin. For calculus use the SURFER program, this can model the topography of hydrographical basin, based on different gridding methods, and calculate the solid flow volume. The calculus take in consideration different parameters, which affect solid flow volume: soil characteristics, length and average slope of hillslopes, rainfall intensity, vegetation cover factor, conservation practice factor, watersheds area, soil erodibility factor.**

***Keywords:** gridding method, hydrographical basin, soil erosion, solid flow*

Podoleanu, C.,E., Contributions on Optimization of Longitudinal Horizontal Settling Tanks Exploitation.....17

***Abstract** – *Abstract: This paper proposes a new approach in terms of optimization of exploitation longitudinal horizontal decanters within a drinking/potable water station. Regardless of the variant of realization, automation is always an optimization problem, too. Following the experimental research presented programs that can simulate sedimentation process of longitudinal horizontal settling tanks.**

***Keywords:** optimization, automation, sedimentation, exploitation, optimization strategies*

Ștefănescu, C., Beilicci, E., Baliga, D., The influence of rainfall movement on runoff hydrograph.....23

***Abstract** – *In this paper we try to find the general shape of the relation between storm movement parameters like storm duration, intensity, velocity and direction, and its influence on peak discharge. This influence is called a "directional bias". Different factors affecting the magnitude of directional bias are described. The relations between rainfall characteristics and the magnitude of the directional bias are shown for a conceptual catchment.**

The maximal directional bias can theoretically reach values of several hundred percent, but this can happen only in a catchment with specially designed linear geometry. Maximal directional bias can be expected for storms moving downstream the catchment with velocity equal to the average flow velocity. Maximal directional bias occurs for storms with short duration giving low peak discharge.

***Keywords:** peak discharge, directional bias, Maximal directional bias, flow velocity, storm duration, intensity*

Gherman, G., Man, T.E., Gherman, V.D., The greening of the mining areas in order to protect the environment27

Abstract – Prior 1989, mining efforts in Romania were directed mainly to increase production, regardless of cost and consequences on the environment. The restructuring of the mining industry, started after 1990, aimed primarily at maintaining the business only on economically efficient units, the rest being closed. This paper presents the importance of greening the former mining areas, the legislation in force on integrated waste management, mine rehabilitation of contaminated sites and a case study regarding Sasca Montana, which is placed under conservation. One of the most effective measures and works undertaken in recent years at a number of mines in the world, in order to ecologically reconstruct these areas and to provide a sustainable development, is phytoremediation. The use of plants as *Vetiveria zizanioides*, *Eleagnus angustifolia*, *Robinia pseudacacia*, *Hippophae rhamnoides*, used successfully in ponds tailings from other mining areas, would be the best solution for the greening of Sasca Montana area.

Keywords: restructuring of the mining industry, mining areas greening, integrated waste management

Popescu Bușan, A., Popescu-Busan, M.C., Ion, M., Nicoară, S.V., Rehabilitation of a Nonpermenent Water Reservoir by Changing the High Waters Flow Regime31

Abstract – The presented paper aims to cover a study for improving the high waters flow regime at Baltă Radovan nonpermenent reservoir, situated in Dolj County.

Keywords: water top discharger, practical shape spillway, bottom discharger, water energy dissipater

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Abstract – This paper is presented schematically the evolution of modeling flow in porous medium. The paper makes no reference to any discoveries in the field, but a global view of the evolution process of flow in the aquifer, including the most important events for understanding the phenomenon.

Keywords: porous medium, fluid flow, hydraulic conductivity, groundwater flow equations

Bakos, M., V., Importance for study multiphase in porous medium.....39

Abstract – The study of multiphase flow through porous media is important in many applications such as oil and gas industry, irrigation of agricultural land, groundwater pollution. The reservoir rock of an oil field almost always contains several immiscible fluids in its pore. Part of the pore volume is occupied by water; the rest may be occupied either by oil or gas, or by both. For study this topic is necessary to know: porosity, permeability, saturation of a phase, capillary pressure, humidity, multi scale for modeling multiphase.

Keywords: porosity, porous media, multiphase, saturation

Golosie, L., Aggressiveness of anthropic environmental factors on sustainable development.....43

Abstract – Abstract- Since ancient times, the Poiana Rusca Mountains hide many enigmas of economic and social development of Romanian people. The development of iron's process (exploitation, metallurgy, siderurgy) has been take place at the end of first Iron Age. In this mountains, an interesting development period had Pades River, with both localities (Rusca and Ruschita). The communist period start a massive economical development which destroys the environment and the social normality. By then the area was named "Sinaia Banatului". The first profession research was made by Iosif Bodoki (controller of mines, 1803) and Leonhard Aigler was mine's inspector. Although in Varnita- valley already existing three furnaces that were constructed in 1750, the truth development began since 1828 in Ruschita (Andreas furnaces) and at Rusca began since 1801 (when establish mining enterprise). In 1963 at the radiometric revision, rocks with level at 50-910 $\mu\text{R/h}$ have been found. The thorium and uranium ore was located strictly in the magnet ore on Peak „Boul”. The brannerit exploitation begin, but this think carry to the aggravation of the state's health of miners. The lead exploitation had instantly negative effects but the exploitation from Peak „Boul” the effect was later on. Because from this cause the exploitation is stopped until 1969, but after that the exploitation is open without taking measures special to protect. From this moment, "Sinaia Banatului", begins to fall. The area is quickly contaminated

*(the water transport ore from mine gallery, the ore's transport is effectuated through the center of localities with the open trucks's bena). The paper presents the major risk factors of exploitation from "Boul" Peak, the pollution process, and the evaluation of the radiometric values on the „Varnita" dump and on the „Porcu" settling pit. **Keywords:** ore exploitation, mining dumps, floatations, radiometric evaluation*

Adam, I., Elaboration of a new criteria to locate the strengthen points for the Romania forests in order to fight against fires46

***Abstract** –The fires cause the trees death, the wood material destruction or the technological degradation of the timber and on the other hand it can initiate complex technological processes that could highly accentuate the first signs of damages, threatening the health of the entire undergrowth ensemble.*

***Keywords:** forest fires, fire risk, Romanian forests, strengthen points*

Costescu, A., Orlescu, M.C., Treatment vs recovery of wastes liquid phases inside the municipal landfills 51

***Abstract** – It is fundamentally wrong the notion that wastes resulted from domestic activities or various technologies from economy are trash and thereby is normal to keep them out of sight. It is wrong because all these wastes contain an important useful/reusable part. Therefore wastes must be approached as an alternative resource of raw material, considering the sustainable development concept and the integrated management approach. In this context, our intention is to present a technology, practiced in many developed countries (E.U., U.S.A., Asia), that uses the existent resources from conformable landfills to increase the qualitative and quantitative production of methane (biogas). It implies the approach of conformable landfills as bioreactor landfills.*

***Keywords:** municipal landfills, useful/reusable part, technology*