SCIENTIFIC BULLETIN OF
"Politehnica" University of Timişoara, Romania
Transactions on HYDROTEHNICS

Content and Abstracts

Vol. 46 (60), 2001, No.1, ISSN 1224-6042

Abstract – ***In this paper is presented a analyze of numerical errors which can appear when is used the Finite Volume Method (FVM) from the American programs MODFLOW in the situation of three-dimensional local movement, the usually case is partially penetrating wells. This situation presents a practical and theoretical interest because the movement analyzed has from mathematical point of view a singular component by polar type. These singular components lead at difficulty to apply the numerical method based by domain discretization. The results presented in this paper show that the errors depend by the measure discretization pass. The error can by so high and can change the results (for example: 150 % errors at the calculus of well discharge). Opposed with these results are the calculus effectuated using another programs which used the Analytical Elements Method and also the Boundary elements Methods.***
Keywords: relative errors, Finite Volume Methods, Boundary Elements Method

Abstract – In this paper is presented the advantages of using a hydrological data base like an information system to prevent the disasters caused by inundation. Using the data base will help us to take correct decisions in case of water resources management. In the end of the paper is also present a solution of an information system.
Keywords: data base, disasters, inundation, water management

Abstract: - In this paper are defined the principal dynamic characteristics of soils (the shear modulus G and the damping ratio D) and are presented the most important parameters which influence the there development. Also, are presented three empirical models used to estimate the shear modulus function by the following parameters (pressure, porosity, relative density, saturation ratio, and granular characteristics). All these will help at the study of the dynamic proprieties of the sands and the formulas proposed offer a good estimation. The data presented by the various researches can serve as a useful guide in the study for the dynamic property of sands.
Keywords: sand, shear modulus, damping ratio, relative density, and saturation ratio

Abstract: The vibrations are very often considered as soil compaction mean, from the various dynamics methods the vibratory roller compaction is one of the most applied methods especially in case of granular soils. The paper presents the working principle of these devices, together with mathematical model employed for compaction system description. It is also presented a laboratory testing model develop for studying the phenomena which covers the dynamic compaction with vibratory rollers. The paper include also the continuos compaction control principle (CCC), integrated to a vibratory cylinder.
Keywords: vibrations, compaction, and vibratory cylinder

Abstract - According to various studies concerning the soil compaction phenomena, among other factors such as the soil nature, the compaction volume or used power, water content (moisture) presents also an important effect in the process. The paper presents the soil moisture content effect upon the compaction process, focussing on sand compaction with vibratory rollers. There are also given the results obtained from compaction tests developed by several researchers in laboratory or in situ.
Keywords: soil dynamic compaction, effective density water content, and compaction grade

Abstract: In this paper we present a cadastral plan prepared in village Cornea, district Caras-Severin during Austrian administration and also the cadastral register prepared in the same time. There are analyzed the modalities in which these are prepared and how evolved the cadastre functions until present.
Keywords: cadastre, cadastral plan, land use category, soil fertility class, iugar – unit of area

Abstract: The hydrological model SMAR, include all the functions and all the processing need for hydrological simulation and operative forecast in real time. It is started with entry data and with processing of theme and continues with calibration of the model using usually and efficient optimization methods.
Keywords: hydrographic basin, hydrograph, and simulation

Abstract In the binary networks, which transport the warm water, it will be form a number of functional circuits which must be equilibrate.
In case of the thermal ring network besides functional circuits will appear physic circuits. The distribution of the transitional discharge in these circuits can be realized through different way. Recently can be elaborate two methods to optimize the water ring network. In this paper is presented a optimize new method applied only at the thermal network.
Keywords: binary network, thermal energy distribution system