

Ciomocos, F.D., Nicoara, S.V., Constantin, T.A. - Theoretical and experimental results analysis for mitre-type gates ... 5

**Abstract** – The paper presents analytical and experimental study regarding the stress and straining state for a mitre-type gate. The analytical computations were performed with the computer by using three types of discretization in the Finite Elements Method. Finally a comparison is performed between obtained experimental results and estimated ones by analytical method.

**Keywords:** mitre-type gate, stress and straining state, physical and numerical modeling

Constantin, T.A., Nicoara, S.V. - Primary determination of the main hydropower parameters for pumped storage plants. 9

**Abstract** – The pumped storage power plants are water constructional works having the function to accumulate the available energy during off-peak hours, energy that would be returned when necessary in the national energy system. The paper presents the preliminary determination of the main hydropower parameters of the pumped storage plants.

**Keywords:** available water volume, pumped and turbine discharge, installed power, consumed energy daily compensation, weekly compensation

Constantin, T.A., Nicoara, S.V. - Statistical analysis of the reversibility ratio at large head pumped storage plants ..... 15

**Abstract** – The pumped storage power plants are water constructional works having the function to accumulate the available energy during off-peak hours, energy that would be returned when necessary in the national energy system. The paper presents the preliminary determination of the main hydropower parameters of the pumped storage plants. The present paper finds to show a statistical analysis of the reversibility coefficient for their world-wide pumped storage plants in different stages like: performed, under construction or in the design project stage. The goal of the paper is to establish a possible correlation between the reversibility coefficient and the main parameters of the reversible turbines useful for a possible such hydropower plants in Romania.

**Keywords:** reversibility coefficient, pumped and turbinated discharge, daily and weekly compensation

Popa, Gh., Ion, M., Muj, S. - The induced stress and strains state of the longitudinally reinforced concrete elements in a thermal analyses ..... 21

**Abstract** – This paper contains a thermal analysis of the longitudinally reinforced concrete elements, which is used at the heat treating of the wooden product. We'll consider a structure with 3 boxes, which contains hot water at 90°. The wooden products are seated on an annular grid for the vaporization process. The problem is to find the largest displacement of the boxes, on the longitudinal direction. This will be calculated in two modes. The results will be presented in the paper. The pumped storage power plants are water constructional works having the function to accumulate the available energy during off-peak hours, energy that would be returned when necessary in the national energy system. The paper presents the preliminary determination of the main hydropower parameters of the pumped storage plants.

**Keywords:** displacement, induced stress, strains, boxes

Jura, C., Staniloiu, C., Gheorghe, A., Mihart, D. - Efficiency establishment of the waste water mechanical treatment step ..... 25

**Abstract** – In the optimization studies of the waste water treatment plants must carefully set the efficiency of the mechanical treatment especially that of primary sand settling tank. In fact the attention is paid to reduce the concentration of the biochemical oxygen demand (COD) and total suspended matter (TSM). As we have a performing primary treatment tank as the loading of the biological treatment tank is reduced. The dimensioning of the sand settling tanks is based on the superficial loading but it is indicated to verify the clarifying efficiency in terms of the settling process time period. The optimization procedures of the technological line are based both theoretical and experimental studies. The paper presents a comparison between theoretical and experimental results for the settling process efficiency.

**Keywords:** waste water treatment, COD, TSM, primary and biologic treatment tank, settling efficiency, optimizing procedures

Eles, G., Doandes, V. - TOPOPLAN software for increasing the efficiency of optical tachimeters ..... 29

*Abstract – The wide scale of total stations development and also the intensive use them led to the developing of orientated software used mainly for processing the measured field data. The main objective of this software does consist in digital topographical plans achievement. The paper is trying to have an answer at the question: How digital plans can be achieved by using optical tachimeters instead of total stations using adequate software.*

*Keywords: tachimeter, theodolite, azimuth, backsight*