**International Jubilee Scientific Conference**
70th anniversary FHE of the UACEG

**7-8 НОЕМВРИ 2019**
**7-8 NOVEMBER 2019**

**Международна Юбилейна Научна Конференция**
**70 години ХТФ на УАСГ**

# DESIGN FLOOD HYDROGRAPH FOR FLOOD PROTECTION SYSTEM

**Aleksandra Ilić[1], Prof. Stevan Prohaska[2]**

***Keywords*:** *design flood hydrograph, „limited runoff intensity“ method, bivariate distribution function, maximum annual flow, flood wave volume.*

## ABSTRACT

Design hydrograph determination for flood protection system plays a key role in terms of economy and risk of flooding. The first part of paper describes the procedure for defining theoretical hydrograph using the "limited runoff intensity" (LRI) method for different probabilities of occurence and the bivariate probability distribution function for determining coincidence of various hydrograph parameters (i. e. maximum anual flow and flood wave volume in the same calendar year). In the second part the criteria for adopting the optimal combination of parameters for defining the (design) theoretical hydrograph depending on the type and purpose of the hydraulic structure, is presented.

The results, theoretical hydrographs for different probabilities occurrence: 0.1, 1.0, 2.0, 5.0 and 10.0%, are presented for hydrological station Oršava at the Danube River in Romania.

[1] Aleksandra Ilić, MSc, Faculty of Civil Engineering &Architecture, Aleksandra Medvedeva 14, 18000 Niš, Serbia, e-mail: aleksandra.ilic@gaf.ni.ac.rs

[2] Stevan Prohaska, PhD, Institute for the development water resources “Jaroslav Černi”, Jaroslava Černog 80, 11226 Belgrade, Serbia, e-mail: stevan.prohaska@jcerni.rs