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**Ravnomjerna raspodjela broja birača po izbornim jedinicama  
na bazi matematičkog modela**

**Sažetak.** U ovom radu predložen je matematički model, na osnovi kojeg je moguće definirati maksimalno kompaktne i dobro razdijeljene izborne jedinice, koje se po broju birača međusobno mogu razlikovati najviše za 5%. Model se temelji na primjeni klaster analize uz poštivanje zakonom propisanih pravila prema kojem izborne jedinice trebaju imati približno jednak broj birača. Metoda je ilustrirana na primjeru dostupnih podataka iz 2007. godine te tako dobivenu raspodjelu izbornih jedinica ne treba shvatiti kao konačni prijedlog rješenja, već isključivo kao prikaz mogućnosti koje nudi ova metodologija. Prema trenutno važećem zakonu izbori se u Republici Hrvatskoj provode u 10 izbornih jedinica. U radu je predloženo nekoliko pristupa poznatih iz literature na osnovi kojih je moguće definirati primjereni broj izbornih jedinica, koje zadržavaju svojstvo maksimalne unutrašnje kompaktnosti i dobre razdijeljenosti.

**Abstract. (Uniform distribution of the number of voters per constituency on the basis of a mathematical model)** This paper presents a mathematical model on the basis of which it is possible to define maximum compact well-separated constituencies, which can vary with respect to the number of voters by at most 5%. The model is set up so as not to favor any political option and it is based on the application of cluster analysis, taking into account the rule according to which constituencies should have roughly the same number of voters. The method is illustrated on the example of the available data from 2007, so that distribution of constituencies obtained in this way should not be taken as the final solution proposal, but only as a demonstration of the possibilities offered by this methodology. Under the current law, the elections in Croatia are carried out in 10 constituencies. In this paper, several approaches known from the literature are proposed on the basis of which it is possible to determine the appropriate number of constituencies, which retain the property of maximum internal compactness and satisfactory well-separation.

**Key words:** Data Clustering, Clustering, Constituencies

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