Modeli raspodele gustine u neogenom kompleksu Bačkog platoa i njihova primena

Ivana Vasiljević, Ivan Dulić, Snežana Ignjatović, Vladislav Gajić

Дигитални репозиторијум Рударско-геолошког факултета Универзитета у Београду

[ДР РГФ]

Modeli raspodele gustine u neogenom kompleksu Bačkog platoa i njihova primena | Ivana Vasiljević, Ivan Dulić, Snežana Ignjatović, Vladislav Gajić | XVIII Kongres geologa Srbije, Divčibare, 01-04. jun 2022. | 2022 | |

http://dr.rgf.bg.ac.rs/s/repo/item/0006956

MODELI RASPODELE GUSTINE U NEOGENOM KOMPLEKSU BAČKOG PLATOA I NJIHOVA PRIMENA

Ivana Vasiljević[1], Ivan Dulić[2], Snežana Ignjatović[1], Vladislav Gajić[2]

[1]Univerzitet u Beogradu – Rudarsko-geološki fakultet, Beograd, Srbija,
[2]NTC NIS-Naftagas, Novi Sad, Srbija
E-mail: ivana.vasiljevic@rgf.bg.ac.rs

Ključne reči: distribucija gustine, sedimentni basen

Pri proučavanju geološke građe sedimentnih basena koriste se različiti podaci o raspodeli gustine, ali je njihova primena često ograničena na izradu gravimetrijskih modela. Cilj istraživanja je bio da se prouče mogućnosti šire primene ovih podataka. Modeli raspodele gustine stena neogenog kompleksa formirani su na osnovu podataka merenja karotažom gustine u većem broju bušotina lociranih u Panonskom basenu, na prostoru Bačkog platoa. Položaj profila, duž kojih je vršeno modeliranje, uslovljen je rasporedom bušotina. Modeli su prvo primenjeni za računanje gravitacionog uticaja neogenog kompleksa. Gravitacioni uticaj podloge basena, koji se koristi za izradu modela podloge, dobija se kada se uticaj neogenog kompleksa ukloni iz gravimetrijskih anomalija. Podaci merenja gustine korišćeni su za proračun različitih funkcija, koje opisuju raspodelu gustine u prostoru i za formiranje kompleksnijih modela dobijenih interpolacijom vrednosti gustine između bušotina. Analizirane su razlike u gravitacionom uticaju jednostavnih i kompleksnijih modela, kao i uticaj primene različitih modela gustine neogenog kompleksa na modelirenje podloge basena. Modeli raspodele gustine su korelisani sa drugim geofizičkim i geološkim podacima na ispitivanom prostoru, u cilju evaluacije modela i unošenja eventualnih korekcija. Drugi cilj korelacije bio je da se utvrdi da li modeli raspodele gustine mogu da imaju primenu u okviru različitih geoloških analiza građe neogenih basena. Definisan je način računanja anomalija gustine i analizirane su anomalije u raspodeli gustine, koje se javljaju u okviru različitih geoloških jedinica neogenog kompleksa.

DENSITY DISTRIBUTION MODELS FOR NEOGENE COMPLEX OF BAČKA PLATEAU AND THEIR APPLICATION

Ivana Vasiljević[1], Ivan Dulić[2], Snežana Ignjatović[1], Vladislav Gajić[2]
[1]University of Belgrade – Faculty of mining and Geology, Belgrade, Serbia,
[2]NTC NIS-Naftagas, Novi Sad, Serbia
E-mail: ivana.vasiljevic@rgf.bg.ac.rs

Key words: density distribution, sedimentary basin

Different density distribution data are used for the geological studies of sedimentary basins, but their application is usually limited to compiling of gravity models. The aim of the research was to study the possibilities for wider application of this data. Density distribution models of Neogene complex were compiled based on density log data measured in the larger number of drillholes located in the Pannonian Basin, in the area of Bačka Plateau. Positions of the profiles used for modeling were governed by the layout of the boreholes. Models were applied first for the calculation of the gravity effect of Neogene complex. Gravity effect of the basin basement that is applied in the gravity modelling of the basement is obtained by subtracting the effect of Neogene complex from gravity anomaly. Density data were used to calculate different functions that describe spatial density distribution and to form more complex models using density data interpolation between the boreholes. Differences in gravity effect of the simple and more complex models were analyzed, as well as the effects produced by using different density models of Neogene complex on the modeling of basin basement. Density distribution models were correlated with other geophysical and geological data from the investigation area in order to evaluate the models and to insert contingent corrections. The second goal of the correlation was to establish the possibilities for application of density distribution models for different geological analysis concerning the structure of Neogene basins. The procedure for calculating density anomalies was defined and anomalies in density distribution that occurred in different geological units of Neogene complex were analyzed.