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PALEOMAGNETSKA ISTRAŽIVANJA JURSKO – DONJOKREDNIH SEDIMENATA DANUBIKUMA ISTOČNE SRBIJE

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Ključne reči: paleomagnetizam, jura-donja kreda, Danubikum, Istočna Srbija

Danubikum se prostire od južnih Karpata u Rumuniji preko istočne Srbije i nastavlja dalje u zapadnu Bugarsku. Ova jedinica se sastoji od kompleksnih navlaka Arjana, Coșuştea, Gornjeg i Donjeg Dunubikuma. Naše područje istraživanja nalazi se u severoistočnoj Srbiji i pripada Gornjem Danubikumu koji se preko reke Dunav nastavlja dalje u Rumuniju, gde su ranije vršena paleomagnetska istraživanja. Cilj ovog rada je da se utvrdi da li je istraživano područje učestvovalo u pomeranju regionalnog karaktera tokom ili posle vremenskog perioda obuhvaćenog starošću uzoraka.

Uzorkovano je 8 lokaliteta jurskih i donjekrednih krečnjaka. Jezgra su orijentisani "in situ" geološkim kompasom i sunčevim kompasom gde je bilo potrebno. Uzorci su podvrgnuti standardnim paleomagnetskim merenjima i demagnetizacijama. Izvršena je analiza linearnih segmenata krivi demagnetizacije, a na dobijene podatke primenjena je statistička analiza na nivou lokaliteta. Da bi se utvrdilo da li dobijena remanentna magnetizacija odražava starost pre ili posle tektonskih deformacija, primenjena je korekcija za tektoniku na nivou lokaliteta i regionalnom nivou.

Kod svih uzoraka nakon demagnetizacije izdvojena je dobro definisana jednokomponentna remanentna magnetizacije. Nakon evaluacije podataka utvrđeno je da su statistički parametri na nivou lokaliteta najčešće odlični. Podaci dobijeni ovim istraživanjem kao i podaci ranijih paleomagnetskih istraživanja jurskih sedimenata u rumunskom delu Danubikuma ukazuju da je izdvojena remanentna magnetizacija post-deformacione starosti. Opšti srednji pravac remanentne magnetizacije za Danubikum dobro je definisan i sličan opštem srednjem pravcu za Vardarsku zonu, sugerišući da su ove dve oblasti mogle zajedno učestvovati u CW rotaciji od oko 40° u vreme posle donjeg miocena. U cilju podrške ovog zaključka, planiraju se buduća istraživanja u oblasti koja se nalazi između Vardarske zone i Danubikuma.

PALEOMAGNETIC STUDY OF JURASSIC – EARLY CRETACEUSE SEDIMENTS IN THE DANUBICUM OF EASTERN SERBIA

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Keywords: Paleomagnetism, Jurassic-Early Cretaceous, Danubicum, Eastern Serbia

The Danubicum extends from South Carpathians (Romania) southward in Eastern Serbia and continues in western Bulgaria. This unit is composed of Arjana, Coșuștea, Upper and Lower Danubian thrust complexes. Our area of investigation belongs to the Upper Danubian on the Serbian side of the River Danube, but, it has a continuation in Romania, where it was studied earlier for paleomagnetism. The aim of our study was to find out if the study area was involved in regional displacement during or after the time covered by the samples.

We sampled 8 localities of Late Jurassic and Early Cretaceous limestones. The cores were oriented in situ using geological compass and sun compass if needed. Samples were subjected to standard paleomagnetic measurements and demagnetizations. The demagnetization curves were analyzed for linear segments which were used for statistical evaluation on locality level. In order to determine if the obtained remanent magnetization for the localities is of pre or post-folding age on locality level and regional level we performed the fold tests.

As a results of demagnetization, well defined, apparently single component remanences were isolated. The statistical parameters on locality level are usually excellent. Both the present and the earlier studies in Romania for the Jurassic defined remanences of post-deformational age. The overall mean direction for the Danubicum is well defined and similar to those for the Vardar zone suggesting that these two areas could have participated in a CW rotation of around 40° together, in post Early Miocene times. In order to support this conclusion, we plan to extend the research to the area situated between the Vardar Zone and the Danubicum.

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