



## **New possibilities for qualitative interpretation of anomalous gravity fields by means of enhanced derivative transformations - case study from Slovak Bouguer gravity anomaly map (Western Carpathians region)**

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In this contribution we present results from the revision and enrichment of the present gravimetric database of the Slovak Republic. The output of this process is a new version of the complete Bouguer anomaly (CBA) field on our territory. Thanks to the taking into account of more accurate terrain corrections, this field has significantly higher quality and higher resolution capabilities. The excellent features of this map will allow us to re-evaluate and improve the qualitative interpretation of the gravity field in the research of the structural and tectonic geology of the Western Carpathian lithosphere. In the contribution we also analyze the field of the new CBA based on the properties of various transformed fields - in particular the horizontal gradient, which by its local maximums define an important density boundaries in the lateral direction. All original and new transformed maps make a significant contribution to improving the geological interpretation of the CBA field. Except for the horizontal gradient field, we are also interested in a new special transformation of TDXAS, which in an excellent way separates various detected anomalies of gravity field and improves their lateral delimitation.