

## عنوان مقاله:

Application of Forward and Inverse Modelling to High-Resolution Gravity Data for Mineral Exploration

## محل انتشار:

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## خلاصه مقاله:

Gravity survey is a geophysical tool used to investigate the subsurface by measuring the differences in Earth's N, and longitude  $30.00$   $70.30$  - gravitational field. The high-resolution gravity data within latitude  $70.00$  E was acquired through Bureau Gravimetrique Internationale (EGM2008). The research work employed  $30.30$  - the methods of the filtering techniques as well as forward and inverse modelling for data analysis and interpretations. The qualitative results of the gravity anomaly of the field through the regional-residual separation technique and the high pass filters show the local and geologic features of the study area. The low, fairly high and high-density areas are characterized by alluvial, meta-sediments/sedimentary and igneous deposits respectively. The derivative maps aided the locations, boundaries and edges of anomalous bodies, including the transition zones and sedimentary intrusions of the study area. Forward and inverse modeling techniques were applied to profiles (P1-P4) in a quantitative approach, to describe the geometry, density contrast, depth, position, strike, dip and plunge. The depth range of  $1268$  m to  $3111$  m was calculated, while the density contrasts of gravity bodies suggest the presence of mineral rocks such as limestone, quartz, gneiss, sandstone, schist, granite, quartzite and gypsum.

## کلمات کلیدی:

Gravity, Density, Filtering, high-resolution, modelling, Depth

## لینک ثابت مقاله در پایگاه سیویلیکا:

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