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## **The application of non – seismic methods in processing of reflection seismic data**

### **Abstract**

The paper presents a methodology based on the construction of shallow and deep velocity models using gravity and electromagnetic data. Shallow models were used for calculation of seismic static corrections. Deep models were used for Kirchhoff depth migration. Construction of multivariate models was based on simultaneous joint inversion of seismic, gravity and electromagnetic data. In process of building initial geophysical model advanced statistical method was very useful.

Presented geophysical data was collected from the southeast part of Poland, namely the Outer Flysch Carpathians. This area is characterized by complex fold and thrust geology with angles of dipping layers up to 90 degrees which is problematic for geophysical imaging.

Use of independent velocity models to seismic processing allows to improve a quality of stacking seismic data and improves final results of Kirchhoff depth migration in relation to the classical method.

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