



Neogene deformation of thrust-top Rzeszów Basin (Outer Carpathians, Poland)

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The Rzeszów Basin is a 220 km² basin located in the frontal part of Polish Outer Carpathians fold-and-thrust belt. Its sedimentary succession consist of ca. 600 m- thick Miocene evaporates, litoral and marine sediments. This basin developed between Babica-Kąkolówka anticline and frontal thrust of Carpathian Orogen. Rzeszów thrust-top basin is a part of Carpathian foreland basin system– wedge-top depozone. The sediments of wedge -top depozone were syntectonic deformed, what is valuable tool to understand kinematic history of the orogen.

Analysis of field and 3D seismic reflection data showed the internal structure of the basin. Seismic data reveal the presence of fault-bend-folds in the basement of Rzeszów basin. The architecture of the basin - the presence of fault-related folds – suggest that the sediments were deformed in last compressing phase of Carpathian Orogen deformation. Evolution of Rzeszów Basin is compared with Bonini et.al. (1999) model of thrust-top basin whose development is controlled by the kinematics of two competing thrust anticlines. Analysis of seismic and well data in Rzeszów basin suggest that growth sediments are thicker in south part of the basin. During the thrusting the passive rotation of the internal thrust had taken place, what influence the basin fill architecture and depocentre migration opposite to thrust propagation.

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References

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