The aim of the research is to determine the correlation between geological conditions of the ground surface and vertical benchmarks displacements. The area of interest covers selected zones of Lower Silesia and focuses on the Middle Odra Faults Zone and Sudetic Marginal Fault Zone. The authors' hypothesis is that Cainozoic deposits thickness influence vertical displacements of benchmarks in 1957–2002 period.

By the use of the multiple robust regression (Huber weight function), the trend line for total population was found. The correlation plots for that line (Fig. 5a-5b) show a visible correlation between the thickness (in mm) and the vertical deviations (in mm) for Wroclaw - Załubowice, Wroclaw - Opole and Rogoźnica - Jawor. These lines do not cross the main tectonic faults zones of Lower Silesia. The lack of correlation might be caused by the tectonic movements and local stabilization conditions.

References

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