

## **The usage of GIS edge-approximation tools on vintage aerogeophysical data with focus on fault interpretation**

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The reuse of vintage datasets can pose challenges for modern geophysical modelling, due to missing detailed preprocessing information or significant uncertainties or lack of precise tracking, etc. Nevertheless, they are often the only available datasets in a target region. We explore here the potential of such vintage airborne geophysical datasets (magnetic, AEM, radiometric) to detect the location and dip direction of geological faults, using a non-modelling interpretation approach based on multiple edge-approximation GIS tools. The study area comprises the eastern Bohemian Massif between the Moldanubian Shearzone and the Diendorf-Boskovice Fault System and the Northeastern Molasse Basin south of the Austrian-Czech border, including various fault types in different geological settings. The study area is covered by several aerogeophysical datasets obtained in the 1980s and 1990s and commonly reprocessed in 1998 are available. The applicability of the tools used in this study depend on the geological setting of each fault and is evaluated based on the comparison with geological data. In general, edge-approximation tools, especially used on a combination of datasets, show reliable results concerning the location and strike of faults, and even seem to be able to predict reliably the dip direction of a fault.