Time succession of Cenozoic stress fields in the northern part of the Bohemian Massif

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Methods. The presented succession of regional tectonic stress fields in the northern part of the Bohemian Massif, Czech Republic, is based on a detailed field mapping of faults, offsets of faults and dykes of Tertiary volcanic rocks, and on documentation of kinematic indicators on fault planes. In the last two decades, paleostress analyses were made for the Lusatian Fault (Coubal 1990), the northern marginal fault of the Eger Graben (Adamovič 1995 unpublished), and the northern marginal fault of the Eger Graben (Adamovič 2000 unpublished). Time refinement of the regional stress scale was permitted by paleostress analyses on faults in the Tertiary Moravian Basin (Coubal and Adamovič 2000) and on the analysis of geometries of post-Cretaceous intrusive bodies in northern Bohemia (Adamovič and Coubal 1999).

CONCLUSIONS
The study of cross-cutting relations among faults in North Bohemia, intrusive geometries and deformations of radiometrically dated volcanic bodies, combined with paleostress analysis on major faults, permitted to refine the stress field scale for this region. Recent observations especially helped to characterize the effects of the Mid to Late Miocene compressional phases (gamma, delta) and to quantify their effects in particular fault zones. The magnitude of strike-slip movements under these phases was previously underestimated. On some faults (e.g., Lusatian Fault) it exceeded that of earlier slip-slip movements. Similar structural differences and kinematic histories of the two marginal fault zones of the Eger Graben support their common evolution not only during the Miocene phases, but also during the compressional gamma/delta phases.

This study was supported by the grant project 1AA30046062 of the Grant Agency of the Academy of Sciences CR, and research plan CEZ AVO Z 30130516.