



## **A crustal model for Bavaria (Southern Germany) - 3D structure and seismic velocity**

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A regional 3-D model of the variation of discontinuities and seismic P-wave velocity in the crust of Bavaria has been compiled. Using available regional compilations and published reflection/refraction profiles we created a refined structural model of the Bavarian subsurface down to the Moho-discontinuity. Our recently published maps of the top of the crystalline basement and the base of the Bavarian Molasse basin are used as additional constraints. The model is further supplemented by a velocity model derived from VSP-borehole data throughout the whole of the Molasse basin as well as a local model calculated from a thorough analysis of several thousands of kilometres of seismic reflection profiles. Each model is the result of anisotropic kriging interpolation; the state-wide model makes use of structural assumptions in the form of layer-conformable interpolation.

With a block size of 5 km x 5 km x 1 km the resulting model provides a significantly higher resolution of the 3-D variation in structure and seismic velocity distribution than previous existing models for Bavaria.

Among other, it will be of great value for more accurate earthquake localisation carried out by the Bavarian seismological service. First comparisons with standard earth models are under way.