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## **Geomorphometric modelling of quasi-planar tectono-geomorphic units in the transition zone of the Eastern Alpine Foreland and the Pannonian Basin**

SZÉKELY, B.<sup>1,2,3</sup>, KOMA, Z.<sup>1</sup>, KOVÁCS, G.<sup>1,4,5</sup>, DORNINGER, P.<sup>6</sup>

<sup>1</sup> Department of Geophysics and Space Science, Eötvös University, Pázmány Péter sétány 1/C, 1117 Budapest, Hungary  
email: balazs.szekely@ttk.elte.hu

<sup>2</sup> Vienna University of Technology, Department of Geodesy and Geoinformation, Research Group for Photogrammetry, Gußhausstraße 27-29, 1040 Vienna, Austria

<sup>3</sup> Interdisziplinäres Ökologisches Zentrum, TU Bergakademie Freiberg, Brennhausgasse 14, 09599 Freiberg, Germany

<sup>4</sup> University of West Hungary, Department of Geology, Károlyi Gáspár tér 4, 9700 Szombathely, Hungary

<sup>5</sup> Geomega Ltd., Mester u. 4, 1095 Budapest, Hungary

<sup>6</sup> 4D-IT GmbH, Emil Kögler-Gasse 13, A-2511 Pfaffstätten, Austria

The Western Pannonian Alpine Foothills, the transition zone of the Eastern Alpine Foreland and the Pannonian Basin, is an area of differential uplift: it is bordered by the exhuming Rechnitz window in NW and the subsiding Little Hungarian Plain in the E.

The eastern part of the area exhibits a great number of very flat, slightly tilted surface subdomains, whereas the western part is more dissected the watercourses have terraces or terraces like features.

The extremely smooth, quasi-planar landscape units are very good candidates for geomorphometric modelling via fitting of planar surface elements using digital elevation data. This type of segmentation is aimed at deciphering the spatial pattern of the products of the young tectono-geomorphic processes (tilting, fluvial dissection, formation of terraces). The applied technology is a robust segmentation technique applied to the digital elevation data of the area (Dorninger et al. 2011) that has been proven to be successful in delineating ignimbrite surfaces (Székely et al. in press).

A number of segmentation variants have been produced. The most robust result is a large area dipping towards NE represented by a typically several km large plane (at 5 m vertical tolerance). As concerns the fluvial terraces, only the youngest, not yet dissected ones could be modelled successfully, using special parameter setting. Some tilted surfaces show interesting behaviour: the NW Pinka plain forms a single plane in certain settings whereas the landforms apparently similar around Rechnitz Mts. cannot be modelled this way. We interpret this difference so that the former surfaces are tilted quasi-planar landforms, whereas the latter ones are flexurally deformed foothill landscapes having somewhat concave geometry.

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