

# Present-day Horizontal Mobility in the Serbian Part of the Pannonian Basin; Inferences from the Geometric Analysis of Deformations

Zoran SUŠIĆ<sup>1</sup>, Marinko TOLJIĆ<sup>2</sup>, Vladimir BULATOVIĆ<sup>1</sup>,  
Toša NINKOV<sup>1</sup>, and Uroš STOJADINOVIĆ<sup>2</sup>

<sup>1</sup>University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia;  
e-mail: susic\_zoran@yahoo.com (corresponding author)

<sup>2</sup>University of Belgrade, Faculty of Mining and Geology,  
Chair of Dynamic Geology, Belgrade, Serbia

## Abstract

In tectonically complex environments, such as the Pannonian Basin surrounded by the Alps–Dinarides and Carpathians orogens, monitoring of recent deformations represents very challenging matter. Efficient quantification of active continental deformations demands the use of a multidisciplinary approach, including neotectonic, seismotectonic and geodetic methods. The present-day tectonic mobility in the Pannonian Basin is predominantly controlled by the northward movement of the Adria micro-plate, which has produced compressional stresses that were partly accommodated by the Alps–Dinarides thrust belt and partly transferred towards its hinterland. Influence of thus induced stresses on the recent strain field, deformations and tectonic mobility in the southern segment of the Pannonian Basin has been investigated using GPS measurements of the horizontal mobility in the Vojvodina area (northern Serbia).

**Key words:** GPS measurements, Pannonian Basin, horizontal mobility, deformation analysis, active tectonics.