



## **The assessment of the transformation of global tectonic plate models and the global terrestrial reference frames using the Velocity Decomposition Analysis**

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The aim of our study is to assess the classical Helmert similarity transformation using the Velocity Decomposition Analysis (VEDA). The VEDA is a new methodology, developed by GFZ for the assessment of the reference frames' temporal variation and it is based on the separation of the velocities into two specified parts: The first is related to the reference system choice (the so called datum effect) and the latter one which refers to the real deformation of the terrestrial points. The advantage of the VEDA is its ability to detect the relative biases and reference system effects between two different frames or two different realizations of the same frame, respectively. We apply the VEDA for the assessment between several modern tectonic plate models and the recent global terrestrial reference frames.