

## **Geophysical studies of the Crimea-Caucasus inversion zone in the north-eastern Black Sea**

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A number of independent but inter-related projects aimed at elucidating upper lithosphere, crustal and sedimentary basin architecture in the north-eastern Black Sea, southern Crimea and Kerch peninsulas and the Azov Sea are being carried out by the speaker and colleagues from Ukrainian and other organisations. This region marks the transition from relatively undisturbed Precambrian European cratonic crust and lithosphere north of the Azov Sea to areas of significant Phanerozoic tectonics and basin development, in both extensional as well as compressional environments, to the south. It includes the eastern Black Sea “rift” and a major zone of “basin inversion” on its northern margin related to the Cenozoic formation of the Crimean and Greater Caucasus mountains. Results of local a 3D tomography study of the area, a wide-angle onshore and offshore wide-angle reflection and refraction profile called DOBRE-2, and a regional CDP seismic profile coincident with DOBRE-2, crossing the Azov Sea, Kerch Peninsula and the north-eastern Black Sea southwest to the Ukraine-Turkey border will be described. The integrated results of these geophysical studies can be used as first-order constraints on numerical models to investigate the geodynamic processes of crustal deformation and sedimentary basin evolution during intense periods of “basin inversion”.