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INSAR: NEW TECHNOLOGIES OF THE SATELLITE MONITORING OF MINERAL RESOURCES EXPLORATION FIELDS AND NATURAL AND MAN-MADE OBJECT DISPLACEMENTS

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Abstract. Results of application of satellite radar interferometry to solution of broad range of issues dealt with the Earth's surface deformations are presented. For illustrative purposes the following examples are discussed: estimation of surface displacements at the Romashkino oil exploration field using a method of three components of displacement vector determination developed in the IPE RAS; investigation of landslide activity above the tunnel of the North Caucasus Railway near the Mamaika village (Big Sochi); application of methods of persistent scatterers to evaluate displacement fields in the Moscow city area; analysis of coseismic and postseismic deformations in the area of the Altai 27.09.2003 earthquake. Application of the new technologies enables us to provide results being up to the latest world standards and competitive with those obtained by foreign commercial companies for the RF and CIS territories.

Keywords: satellite monitoring , SAR, interferometry.