

Abstract Submitted  
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**High-speed deformation of soft soils** BRAGOV ANATOLY, Head of Laboratory, D.Sc., LOMUNOV ANDREY, Senior Researcher, PhD, SERGEICHEV IVAN, Senior Researcher, PhD — Dynamic properties of soft soils represent significant interest in connection with the decision of some important applied problems, such as a penetration of various bodies into soils, interaction of overground and underground constructions with soils at strong earthquakes and explosions. Last years for decision of similar problems numerical methods and different hydrocodes are widely used. One of important components of these complexes is the state equations adequately describing processes of dynamic deformation of soils. Now it is felt an evident lack of experimental data which are necessary for equipping the state equations by corresponding parameters and constants. The message is devoted to the description of methodical aspects for definition of the basic mechanical properties of soft soils in a wide range of strain rates and loads. The modified Kolsky method together with a plane-wave shock experiment are used for definition of dynamic properties of soils. Total diagrams of uniaxial compression of the tested soils, obtained by two methods, are resulted for sand and clay. There were obtained the uniaxial compression diagrams as well as curves of hydrostatic compression, dependences of shear resistance via pressure, factor of lateral thrust. These data are successfully used at the numerical decision of problems of soil dynamics.

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