

Abstract Submitted
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Shock-Wave and Detonation Studies at ITEP-TWAC Proton Radiography Facility SERGEY KOLESNIKOV, SERGEY DUDIN, VLADIMIR LAVROV, DMITRY NIKOLAEV, VICTOR MINTSEV, NIKOLAY SHILKIN, VLADIMIR TERNOVOI, ALEXANDER UTKIN, VLADISLAV YAKUSHEV, DENIS YURIEV, VLADIMIR FORTOV, IPCP RAS, Chernogolovka, Russia, ALEXANDER GOLUBEV, ALEXEY KANTSYREV, LEV SHESTOV, GENNADY SMIRNOV, VLADIMIR TURTIKOV, BORIS SHARKOV, ITEP, Moscow, Russia, VASILY BURTSEV, NIKOLAY ZAVIALOV, SERGEY KARTANOV, ANATOLY MIKHAILOV, ALEXEY RUDNEV, MIKHAIL TATSENKO, MIKHAIL ZHERNOKLETOV, RFNC - VNIIEF, Sarov, Russia — In recent years studies of shock and detonation wave phenomena at extreme dynamic conditions were performed at proton radiography facility developed at the 800 MeV proton beam line of ITEP Terawatt Accelerator (ITEP-TWAC). The facility provides a multi-frame imaging capability at 50 μm spatial and 70 ns temporal resolution. The results of latest studies conducted there are presented, including explosion and detonation of pressed and emulsion high explosives, shock-induced dense non-ideal plasma of argon and xenon and shock loading of non-uniform metal surfaces. New compact explosive generators developed specifically for a use at proton radiography facilities are also presented.

Sergey Kolesnikov
IPCP RAS, Chernogolovka, Russia

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