Abstract Submitted for the SHOCK17 Meeting of The American Physical Society

Analysis of Fiber Bragg Grating response to planar shocks ALEXANDER FEDOTOV GEFEN, AVI RAVID, EHUD SHAFIR, SHLOMI ZILBERMAN, GARRY BERKOVIC, YONATAN SCHWEITZER, Soreq NRC — Experimental and theoretical results of the response of 1 mm Fiber Bragg Gratings (FBGs) to planar 3-7 kbar shock waves are reported. The experimental setup includes two FBG sensors, inscribed on single mode fibers for 1550 nm, embedded in different matrices. The sensors were oriented both in parallel and perpendicular directions with respect to the shock wave propagation. The research was aimed at quantitatively characterizing the FBG response to weak shocks. The experimental results show satisfactory match to analytical photo-elastic model.

Alexander Fedotov Gefen Soreq NRC

Date submitted: 23 Feb 2017 Electronic form version 1.4