

**APPLICATION OF TURBULENCE PROBLEM SOLVER
(TPS) SOFTWARE COMPLEX FOR FOR THE
NUMERICAL SIMULATION OF THE EFFECTS OF
FEMTOSECOND LASERS ON METALLIC SUBSTRATES.**

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The work is dedicated to the use of the software package Turbulence Problem Solver (TPS) for numerical simulation of a wide range of laser problems. The capabilities of the package are demonstrated by the example of numerical simulation of the interaction of femtosecond laser pulses with thin metal bonds. The software package TPS developed by the authors is intended for numerical solution of hyperbolic systems of differential equations on multiprocessor computing systems with distributed memory. The package is a modern and expandable software product. The architecture of the package gives the researcher the opportunity to model different physical processes in a uniform way, using different numerical methods and program blocks containing specific initial, boundary conditions and source terms for each problem.