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ON THE CONTINUOUS EXTENSION OF A GENERALIZED SOLUTION OF THE HAMILTON–JACOBI EQUATION BY CHARACTERISTICS THAT FORM A CENTRAL FIELD OF EXTREMALS

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N. N. Subbotina, L. G. Shagalova

The Cauchy problem for the Hamilton–Jacobi equation with state constraints is considered. A justification for a construction of a generalized solution with given structure is provided. The construction is based on the method of characteristics and on solutions of problems related to calculus of variations.

Keywords: Hamilton–Jacobi equations, method of characteristics, viscosity solutions, minimax solutions, calculus of variations, extremals.

N.N. Subbotina, RAS Corresponding Member, Krasovskii Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences, Yekaterinburg, 620990 Russia; Ural Federal University, Yekaterinburg, 620002 Russia, e-mail: subb@uran.ru .

L.G. Shagalova, Cand. Phys.-Math. Sci., Krasovskii Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences, Yekaterinburg, 620990 Russia, e-mail: shag@imm.uran.ru .

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