

Accepted Manuscript

The vanishing discount problem and viscosity Mather measures. Part 2: Boundary value problems

Hitoshi Ishii, Hiroyoshi Mitake, Hung V. Tran

PII: S0021-7824(16)30128-3

DOI: <http://dx.doi.org/10.1016/j.matpur.2016.11.002>

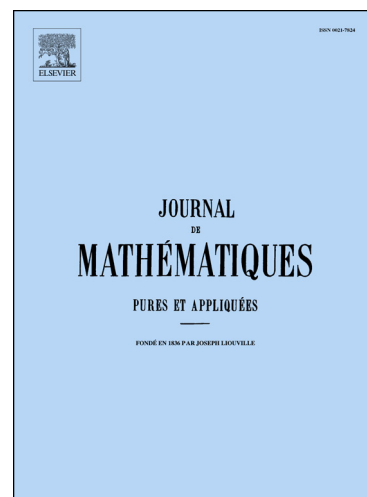
Reference: MATPUR 2877

To appear in: *Journal de Mathématiques Pures et Appliquées*

Received date: 25 August 2016

Please cite this article in press as: H. Ishii et al., The vanishing discount problem and viscosity Mather measures. Part 2: Boundary value problems, *J. Math. Pures Appl.* (2016), <http://dx.doi.org/10.1016/j.matpur.2016.11.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



The vanishing discount problem and viscosity Mather measures. Part 2: boundary value problems

Hitoshi Ishii^{a,*}, Hiroyoshi Mitake^b, Hung V. Tran^c

^a*Faculty of Education and Integrated Arts and Sciences, Waseda University, 1-6-1 Nishi-Waseda, Shinjuku, Tokyo 169-8050, Japan*

^b*Institute of Engineering, Division of Electrical, Systems and Mathematical Engineering, Hiroshima University 1-4-1 Kagamiyama, Higashi-Hiroshima-shi 739-8527, Japan*

^c*Department of Mathematics, University of Wisconsin-Madison, Van Vleck Hall, 480 Lincoln Dr, Madison, WI 53706, USA*

Abstract

In [17] (Part 1 of this series), we have introduced a variational approach to studying the vanishing discount problem for fully nonlinear, degenerate elliptic, partial differential equations in a torus. We develop this approach further here to handle boundary value problems. In particular, we establish new representation formulas for solutions of discount problems, critical values, and use them to prove convergence results for the vanishing discount problems.

Résumé

Dans [17] (première partie de cette série), nous avons introduit une approche variationnelle pour l'étude du problème d'actualisation évanescence pour des équations dégénérées elliptiques complètement non-linéaires posées sur un tore. Nous continuons ici de développer cette approche pour traiter les problèmes avec conditions au bord. Nous établissons en particulier de nouvelles formules de représentation des solutions du problème d'actualisation, des valeurs critiques, et nous les utilisons pour prouver des résultats de convergence pour le problème d'actualisation évanescence.

Keywords: vanishing discount, degenerate elliptic PDE, state constraint problem, Dirichlet problem, Neumann problem, Mather measures

2010 MSC: 35B40, 35J70, 49L25

Contents

1	Introduction	2
1.1	Setting and Assumptions	3

*Corresponding author

Email addresses: hitoshi.ishii@waseda.jp (Hitoshi Ishii), hiroyoshi-mitake@hiroshima-u.ac.jp (Hiroyoshi Mitake), hung@math.wisc.edu (Hung V. Tran)

Download English Version:

<https://daneshyari.com/en/article/8902483>

Download Persian Version:

<https://daneshyari.com/article/8902483>

[Daneshyari.com](https://daneshyari.com)