

Capuzzo Dolcetta, I.; Menaldi, J. L.

Asymptotic behavior of the first order obstacle problem. (English) Zbl 0674.35011
J. Differ. Equations 75, No. 2, 303-328 (1988).

This work is concerned with the asymptotic behaviour as $\lambda \rightarrow 0$ of the viscosity solutions to the obstacle problem:

$$\max\{u(x) - \psi(x); \quad \lambda u(x) - g(x) \cdot Du(x) - f(x)\} = 0, \quad x \in \Omega.$$

Reviewer: [V.Barbu](#)

MSC:

[35F20](#) Nonlinear first-order PDEs

[35B40](#) Asymptotic behavior of solutions to PDEs

[35B30](#) Dependence of solutions to PDEs on initial and/or boundary data and/or on parameters of PDEs

[49L20](#) Dynamic programming in optimal control and differential games

Cited in **2** Documents

Keywords:

[Bellman optimality conditions](#); [dynamic programming](#); [deterministic optimal stopping time](#); [asymptotic behaviour](#); [viscosity solutions](#); [obstacle problem](#)

Full Text: [DOI](#)

References:

- [1] Bensoussan, A; Lions, J.L, Applications des inéquations variationnelles en contrôle stochastique, (1978), Dunod Paris · [Zbl 0411.49002](#)
- [2] Dolcetta, I.Capuzzo; Matzeu, M, On the dynamic programming inequalities associated with the deterministic optimal stopping problem in discrete and continuous time, *Num. funct. anal. optim.*, 3, 425-450, (1981) · [Zbl 0476.49021](#)
- [3] Dolcetta, I.Capuzzo; Menaldi, J.L, On the deterministic optimal stopping time problem in the ergodic case, (), 453-460
- [4] Dolcetta, I.Capuzzo; Evans, L.C, Optimal switching for ordinary differential equations, *SIAM J. control optim.*, 22, 143-161, (1984) · [Zbl 0641.49017](#)
- [5] Colonius, F, Asymptotic behaviour of optimal control systems with high or low discount rates, (1986), preprint
- [6] Crandall, M; Lions, P.L, Viscosity solutions of Hamilton-Jacobi equations, *Trans. amer. math. soc.*, 277, 1-42, (1983) · [Zbl 0599.35024](#)
- [7] Crandall, M; Evans, L.C; Lions, P.L, Some properties of viscosity solutions of Hamilton-Jacobi equations, *Trans. amer. math. soc.*, 282, 487-502, (1984) · [Zbl 0543.35011](#)
- [8] Lions, P.L, Generalized solutions of Hamilton-Jacobi equations, (1982), Pitman New York · [Zbl 1194.35459](#)
- [9] Menaldi, J.L, Le problème de temps d'arrêt optimal déterministic et l'inéquation variationnelle du premier ordre associée, *Appl. math. optim.*, 8, 131-158, (1982) · [Zbl 0486.49005](#)
- [10] Mignot, F; Puel, J.P, Inéquations variationnelles et quasi-variationnelles hyperboliques du premier ordre, *J. math. pures appl.*, 55, 353-378, (1976) · [Zbl 0359.35050](#)
- [11] Robin, M, Long run average control of continuous time Markov processes: A survey, *Acta appl. math.*, 1, 281-299, (1983) · [Zbl 0531.93068](#)

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.