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Some ergodic problems for Hamilton-Jacobi equations in Hilbert space. (English)

[Zbl 0848.35026](#)

Differ. Integral Equ. 9, No. 1, 59-70 (1996).

Existence and uniqueness results for viscosity solutions of Hamilton-Jacobi equations of the type $H(x, \nabla u_\lambda(x)) + \lambda u_x(x) - f(x) = 0$ in Ω with Neumann boundary conditions, where Ω is a domain in a Hilbert space are established using Perron's method. The limit of $\lambda u_\lambda(x)$ as $\lambda \rightarrow \infty$ is the same constant d for each x . The constant d is characterized through viscosity solutions of $H(x, \nabla u) + d - f(x) \leq \varepsilon$.

Reviewer: [S.Lenhart \(Knoxville\)](#)

MSC:

- [35F30](#) Boundary value problems for nonlinear first-order PDEs
- [49L25](#) Viscosity solutions to Hamilton-Jacobi equations in optimal control and differential games
- [35R15](#) PDEs on infinite-dimensional (e.g., function) spaces (= PDEs in infinitely many variables)

Cited in **2** Documents

Keywords:

[Hamilton-Jacobi equations](#)