

Michael, J. H.; Ziemer, William P.

The Wiener criterion and quasilinear uniformly elliptic equations. (English) Zbl 0635.35030
Ann. Inst. Henri Poincaré, Anal. Non Linéaire 4, 453-486 (1987).

The author proves the existence of a solution for a Dirichlet problem in a domain where almost all the points of the boundary satisfy a Wiener solution.

Reviewer: [J.Schönenberger-Deuel](#)

MSC:

- [35J60](#) Nonlinear elliptic equations
- [35B30](#) Dependence of solutions to PDEs on initial and/or boundary data and/or on parameters of PDEs
- [35B65](#) Smoothness and regularity of solutions to PDEs

Cited in 1 Document

Keywords:

[quasilinear](#); [divergence form](#); [Dirichlet problem](#); [Wiener solution](#)

Full Text: [DOI](#) [Numdam](#) [EuDML](#)

References:

- [1] Gariépy, R.; Ziemer, P., A regularity condition at the boundary for solutions of quasilinear elliptic equations, *Arch. Rat. Mech. Anal.*, Vol. 67, 372, (1977) · [Zbl 0297.35032](#)
- [2] D. Gilbarg and N. S. Trudinger, *Elliptic Partial Differential Equations of Second Order*, *\textit{Grundlehren der mathematischen Wissenschaften}*, Vol. 224, Springer-Verlag. · [Zbl 1042.35002](#)
- [3] Hedberg, L. I.; Wolff, Th. H., Thin sets in nonlinear potential theory, *Ann. Inst. Fourier (Grenoble)*, Vol. 33, No 4, 161-187, (1983) · [Zbl 0508.31008](#)
- [4] Ladyženskaya, O. A.; Ural'tseva, N. N., *Linear and quasilinear elliptic equations*, (1968), Academic Press New York · [Zbl 0164.13002](#)
- [5] Maz'ja, V. G., On the continuity at a boundary point of solutions of quasilinear elliptic equations, *Vestnik Leningrad Univ.*, *Vestnik Leningrad Univ. Math.*, Vol. 3, No. 13, (1976)
- [6] Michael, J. H., A general theory for linear elliptic partial differential equations, *Journal of differential equations*, Vol. 23, 1-29, (1977) · [Zbl 0299.35037](#)
- [7] Michael, J. H., The Dirichlet problem for quasilinear uniformly elliptic equations, *Nonlinear Analysis*, Vol. 9, 455-467, (1985) · [Zbl 0526.35031](#)
- [8] Michael, J. H.; Ziemer, W. P., A Lusin type approximation of Sobolev functions by smooth functions, *Contemporary Mathematics*, Vol. 42, 135-167, (1985) · [Zbl 0592.41031](#)
- [9] J. H. Michael and W. P. Ziemer, Interior Regularity for Solutions to Obstacle Problems, *\textit{J. Non-linear Anal.}* (to appear). · [Zbl 0603.49006](#)
- [10] Wiener, N., The Dirichlet problem, *J. Math. and Phys.*, Vol. 3, 127-146, (1924) · [Zbl 51.0361.01](#)
- [11] Wiener, N., Certain notion in potential theory, *J. Math. and Phys.*, Vol. 3, 24-51, (1924) · [Zbl 51.0360.05](#)
- [12] Zibmer, W. P., The Dirichlet problem for euler-lagrange equations on arbitrary domains, *J. London Math. Soc.*, Vol. 19, 2, 481-487, (1979) · [Zbl 0458.35037](#)

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.