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Elliptic regularity for the Neumann problem – MathOverflow
Interface Problems for Quasilinear Elliptic Equations Wu Jinbiao School of Mathematical Sciences, Peking University, Beijing, 100871, People's Republic of China Received April 24, 1998; revised November 3, 1998 In this paper we consider interface problems for quasilinear elliptic partial dif-ferential equations in two-dimensional spaces.

QUASILINEAR ELLIPTIC EQUATIONS AND WEIGHTED SOBOLEV ...
H. J. Choe & J. Lewis, On the obstacle problem for quasilinear elliptic equation of p Laplacian type, to appear in SIAM J. Math. Analysis. 2. E. DiBenedetto , C 1,? local regularity of weak solutions of degenerate elliptic equations, Nonlinear Anal. 7 (1983), 827-850.

Regularity Problem For Quasilinear Elliptic
Introduction. The smoothness of solutions for quasilinear systems is one of the most important problems in modern mathematical physics. This book deals with regular or strong solutions for general quasilinear second-order elliptic and parabolic systems. Applications in solid mechanics, hydrodynamics, elasticity and plasticity are described.

Regularity of Entropy Solutions of Quasilinear Elliptic ...
4.1. Regularity Results 16 4.2. The Existence Proof 20 4.3. Existence of Nash Equilibria 25 5. The Classical Theory of Quasilinear Equations 27 5.1. Quasilinear elliptic systems 28 5.2. Hölder regularity for Quasi-linear equations 30 5.3. Diagonal Systems 37 6. Epilogue 50 7. Appendix A – Stochastic Analysis 51 7.1. An Aside on Brownian Motion ...

Calderón-Zygmund estimates for quasilinear elliptic double ...
In mathematics, an elliptic boundary value problem is a special kind of boundary value problem which can be thought of as the stable state of an evolution problem.For example, the Dirichlet problem for the Laplacian gives the eventual distribution of heat in a room several hours after the heating is turned on.. Differential equations describe a large class of natural phenomena, from the heat ...

Regularity Problem for Quasilinear Elliptic and Parabolic ...
QUASILINEAR ELLIPTIC EQUATIONS 127 Here, we overcome this difficulty by reducing the general regularity result to C''"-estimates, where a is supposed to be an L "-function. With the aid of these a priori bounds, the existence of smooth solutions with prescribed Holder-continuous boundary data is established for "sufficiently small" subregions of Q.

Regularity for a more general class of quasilinear ...
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ON THE REGULARITY OF THE SOLUTION OF PARTIAL REGULARITY OF ...
A variational approach to a class of quasilinear elliptic equations not in divergence form. Discrete & Continuous Dynamical Systems – S, 2012, 5 (4) : 819-830. doi: 10.3934/dcdss.2012.5.819 [7] Giuseppe Riey. Regularity and weak comparison principles for double phase quasilinear elliptic equations.

Interface Problems for Quasilinear Elliptic Equations
of the solutions of the Neumann problem for various classes of quasilinear parabolic systems [9], [10]. The author's articles [11]-[13] investigate the regularity of solutions of the Neu-mann problem for elliptic systems. Lp-estimates of the gradient are derived in [11], [12], and partial regularity of the solutions in a neighborhood of the ...

Regularity of solutions to quasilinear elliptic systems
extending earlier results on the form boundedness problem for the Schr odinger operator to p6= 2. 1. Introduction This paper concerns a study of weak solutions to certain quasilinear elliptic equations, and closely related integral inequalities with distri-butional weights. Let p2(1;1) and let ˆRn be an open set, with n 1.

A regularity theory for a general class of quasilinear ...
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Regularity Problem For Quasilinear Elliptic And Parabolic ...
regularity of entropy solutions of quasilinear elliptic problems 13 (ii) Let ? 1 := pq/ (r 1 + q) and ? 2 := (p? ? ?) ? 1 /p . Assume 1 ? q < ˜ q and note

Fine Regularity of Solutions of Elliptic Partial ...
Quasilinear elliptic double obstacle problems with variable exponent and logarithmic growth are studied. We obtain a global Calderón-Zygmund estimate for such an irregular obstacle problem by proving that the gradient of the solution is as integrable as both the nonhomogeneous term and the gradient of the associated double obstacles under minimal regularity requirements on the elliptic ...

Regularity Problem for Quasilinear Elliptic and Parabolic ...
The smoothness of solutions for quasilinear systems is one of the most important problems in modern mathematical physics. This book deals with regular or strong solutions for general quasilinear second-order elliptic and parabolic systems. Applications in solid mechanics, hydrodynamics, elasticity and plasticity are described.

Regularity of a Class of Quasilinear Degenerate Elliptic ...
1.1 Dirichlet problems and oblique derivative problems 1.1.1 Statement of problem A boundary value problem is a combination of a di erential equation inside a bounded domain ˆRnand a boundary condition on the boundary of , i.e., @. The Dirichlet problem for a second order linear elliptic equation takes the following form 8 >< >: Lu= f in ; u ...

Elliptic boundary value problem - Wikipedia
Regularity of solutions to quasilinear elliptic ... Very powerful theory of regularity Linear elliptic equation and quadratic functionals a ij(x) 2L1 a ... Technical problems depend very often on the availability of appropriate test functions using the solution as a test function

Regularity Problem For Quasilinear Elliptic And Parabolic ...
I'm trying to understand how to establish regularity for elliptic equations on bounded domains with Neumann data. For simplicity, let's presume we are focusing on $-\Delta u = f$ in Ω and $\frac{\partial u}{\partial \nu} = 0$ on $\partial \Omega$. Interior regularity works the same as always.

ELLIPTIC REGULARITY FOR QUASILINEAR SYSTEMS AND STOCHASTIC ...
Regularity Results for Quasilinear Elliptic Equations in the Heisenberg Group Juan J. Manfredi · Giuseppe Mingione Received: date / Revised: date – c Springer-Verlag 2007 Abstract. We prove regularity results for solutions to a class of quasilinear elliptic equations in divergence form in the Heisenberg group Hn. The model case is the non-

Regularity Results for Quasilinear Elliptic Equations in ...
The primary objective of this book is to give a comprehensive exposition of results surrounding the work of the authors concerning boundary regularity of weak solutions of second-order elliptic quasilinear equations in divergence form.

Interior $C^{1,\alpha}$ regularity of weak solutions for a ...
In this paper, we consider the regularity of degenerate elliptic quasilinear equations in the form: i, j ? j (a ij (x, u)? i u)=f,(1) where a ij (x, u)#C˜(Rn_R), semi-positive. Our study of the problem is motivated by the regularity problem for degenerate Monge Ampe re equations det(u ij)=k,(2) where k is a nonnegative function. When n=2 ...