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*Integrability for solutions to quasilinear elliptic systems*

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**Abstract:** In this paper we prove an estimate for the measure of superlevel sets of weak solutions to quasilinear elliptic systems in divergence form. In some special cases, such an estimate allows us to improve on the integrability of the solution.

**Keywords:** level set, integrability, solution, quasilinear, elliptic, system

**AMS Subject Classification:** 35J62, 35J47, 35D10

REFERENCES

- [1] De Giorgi E., *Un esempio di estremali discontinue per un problema variazionale di tipo ellittico*, Boll. Un. Mat. Ital. **4** (1968), 135–137.
- [2] Giaquinta M., Modica G., *Regularity results for some classes of higher order nonlinear elliptic systems*, J. Reine Angew. Math. **311/312** (1979), 145–169.
- [3] Giusti E., *Direct Methods in the Calculus of Variations*, World Scientific, River Edge, NJ, 2003.
- [4] Leonardi S., *A maximum principle for linear elliptic systems with discontinuous coefficients*, Comment. Math. Univ. Carolin. **45** (2004), 457–474.
- [5] Leonetti F., Petricca P.V., *Regularity for solutions to some nonlinear elliptic systems*, Complex Var. Elliptic Equ., to appear.
- [6] Mandras F., *Principio di massimo per una classe di sistemi ellittici degeneri quasi lineari*, Rend. Sem. Fac. Sci. Univ. Cagliari **46** (1976), 81–88.
- [7] Nečas J., Stará J., *Principio di massimo per i sistemi ellittici quasi-lineari non diagonali*, Boll. Un. Mat. Ital. **6** (1972), 1–10.
- [8] Šverák V., Yan X., *Non-Lipschitz minimizers of smooth uniformly convex functionals*, Proc. Natl. Acad. Sci. USA **99** (2002), 15269–15276.