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Cristian Rios* (crios@math.ucalgary.ca), Department of Mathematics, University of Calgary, 2500 University Dr. NW, Calgary, AB T2N1N4, Canada, and **Eric T Sawyer** and **Richard Wheeden**. *Regularity for Quasilinear Equations with non-Hormander vector fields*. Preliminary report.

We consider a class of degenerate elliptic equations with non-isotropic ellipticity which might vanish to infinite order. In particular, the underlying vector fields fail to satisfy the Hormander condition.

We prove a-priori estimates for continuous weak solutions. As a consequence we obtain existence and regularity for solutions of the Dirichlet problem. The regularity theorems are new even in the linear case.

In two dimensions these results may be applied to show regularity for Monge-Ampere equations with infinite vanishing right hand side. (Received February 23, 2010)