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Gradient estimates for elliptic systems in Carnot-Carathéodory spaces

Comment.Math.Univ.Carolinae 43,4 (2002) 605-618.

Abstract: Let $X = (X_1, X_2, \dots, X_q)$ be a system of vector fields satisfying the Hörmander condition. We prove $L_X^{2,\lambda}$ local regularity for the gradient Xu of a solution of the following strongly elliptic system

$$-X_\alpha^*(a_{ij}^{\alpha\beta}(x)X_\beta u^j) = g_i - X_\alpha^* f_i^\alpha(x) \quad \forall i = 1, 2, \dots, N,$$

where $a_{ij}^{\alpha\beta}(x)$ are bounded functions and belong to Vanishing Mean Oscillation space.

Keywords: elliptic systems, Morrey space regularity, Carnot-Carathéodory metric
AMS Subject Classification: 35J50