

Second order regularity for linear elliptic system with lower order terms

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I will present some recent results obtained in collaboration with G. Moscarillo. We establish the higher differentiability of local solution u to linear elliptic systems of type

$$\operatorname{div}(A(x)Du) + b(x)u(x) = f \quad \text{in } \Omega$$

under a Sobolev Marcinkiewicz assumption on the matrix $A(x)$.

The novelty here is to consider a lower order term with coefficients $b(x) \in L^{\frac{n}{2}, \infty}$.