Abstract:

Is showed a problem studied in cooperation with Professor Atsushi Tachikawa. We treat the regularity problem for minimizers

$$u(x) : \Omega \subset \mathbf{R}^m \to \mathbf{R}^n$$

of quadratic and nonquadratic growth functional

$$\int_\Omega A(x, u, Du)dx.$$

About the dependence on the variable x is assumed only that *A(·,u, p)* is in the class VMO, Vanishing Mean Oscillation class, as a function of x. Namely, is not assumed the continuity of *A(x; u; p)* with respect to x. Are considered both partial and global regularity of the minimizer u.