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Boundedness and pointwise differentiability of weak solutions to quasi-linear elliptic differential equations and variational inequalities

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Abstract: The local boundedness of weak solutions to variational inequalities (obstacle problem) with the linear growth condition is obtained. Consequently, an analogue of a theorem by Reshetnyak about a.e. differentiability of weak solutions to elliptic divergence type differential equations is proved for variational inequalities.

Keywords: quasi-linear elliptic equations and inequalities, weak solution, local boundedness, pointwise differentiability, difference quotient
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