ON THE SUPREMUM OF SOLUTION TO SECOND ORDER ELLIPTIC AND PARABOLIC EQUATIONS IN NON-DIVERGENCE FORM

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We prove that supremum (and infimum) of good solution (i.e. solutions which are limit of solutions to regularized problems) to the Dirichlet problem for second order elliptic and parabolic equations in non-divergence form with measurable coefficients are also good solutions. The result is completely new for parabolic equations, while for elliptic equations is known as a by-product of the equivalence of the definition of good solution with that of viscosity solution. In this case, though, our proof i direct and much simpler.

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