



# On the dynamic programming principle for uniformly nondegenerate stochastic differential games in domains and the Isaacs equations

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We prove the dynamic programming principle for uniformly nondegenerate stochastic differential games in the framework of time-homogeneous diffusion processes considered up to the first exit time from a domain. In contrast with previous results established for constant stopping times we allow arbitrary stopping times and randomized ones as well. There is no assumption about solvability of the the Isaacs equation in any sense (classical or viscosity). The zeroth-order "coefficient" and the "free" term are only assumed to be measurable in the space variable. We also prove that value functions are uniquely determined by the functions defining the corresponding Isaacs equations and thus stochastic games with the same Isaacs equation have the same value functions.

Comments: 28 pages. This is the second article in the series of three. Writing the third one required a revision of this article

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