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REFINED SOLUTIONS OF TIME INHOMOGENEOUS OPTIMAL STOPPING PROBLEM AND ZERO-SUM GAME VIA DIRICHLET FORM

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Abstract: The properties of value functions of time inhomogeneous optimal stopping problem and zero-sum game (Dynkin game) are studied through time dependent Dirichlet form. Under the absolute continuity condition on the transition function of the underlying process and some other assumptions, the refined solutions without exceptional starting points are proved to exist, and the value functions of the optimal stopping problem and zero-sum game, which belong to certain functional spaces, are characterized as the solutions of some variational inequalities, respectively.

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