

A deterministic game interpretation for fully nonlinear parabolic equations with dynamic boundary conditions

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In this talk, we give a deterministic discrete game-theoretic interpretation for a general class of fully nonlinear parabolic equations with nonlinear dynamic boundary conditions. It is well known that the classical Neumann boundary condition for general parabolic or elliptic equations can be generated by including reflections on the boundary to the interior optimal control or game interpretations. Our game method can be used to derive general nonlinear dynamic boundary conditions. We also discuss the fast evolution asymptotics of the game values, which leads us to the associated elliptic problems.

This talk is based on joint work with Nao Hamamuki at Hokkaido University.

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