EXPLICIT REPRESENTATION OF THE SKOROKHOD MAP WITH TIME DEPENDENT BOUNDARIES

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Abstract: An explicit formula for the Skorokhod type reflection map for real-valued càdlàg functions is developed in the general case of constraining set $[\alpha, \beta]$, where $\alpha$ and $\beta$ are not constant but change with time. In addition, a number of properties of the reflection map, including continuity and Lipschitz conditions under uniform, $J_1$ and $M_1$ metrics, are studied.

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