

• 1. The cases

(i) $a = 0$

or

(ii) $0 < ab < \alpha'(0)/2$ and $0 < a(1-b) < -\alpha'(1)/2$.

Theorem

If $a = 0$, or if $0 < ab < \alpha'(0)/2$ and $0 < a(1-b) < -\alpha'(1)/2$, then the well-posed domain for A is

$$D_V(A) = \left\{ u \in C_*^2([0, 1]) \mid \lim_{x \rightarrow 0^+} A(u)(x) = 0 = \lim_{x \rightarrow 1^-} A(u)(x) = 0 \right\}. \quad (8)$$

The capital letter V refers to the mathematician Ventcel' who extended the one-dimensional Feller work to multidimensional settings. The Ventcel' conditions imply that, once the Markov process reaches 0 or 1, then it stops there for ever.





$$P_x\{Z_L \in B\}$$





