Exact solution to a Lindley-type equation on a bounded support

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Abstract: We derive the limiting waiting-time distribution $F_W$ of a model described by the Lindley-type equation $W = \max\{0, B - A - W\}$, where $B$ has a polynomial distribution. This exact solution is applied to derive approximations of $F_W$ when $B$ is generally distributed on a finite support. We provide error bounds for these approximations.

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