1 Prerequisites

None

2 Summary

This topic states Dubins’ inequality.

3 Dubins’ Inequality

Theorem 1 For every positive supermartingale $X_n$, $n \geq 0$, the number of upcrossings $U$ of $[a,b]$ satisfies

$$P(U \geq k) \leq \left(\frac{a}{b}\right)^k E_{\min}(X_0/a, 1).$$

See the Durrett, p. 236 for proof.

4 Reference