Corrigendum

Subexponential solutions of linear integro-differential equations and transient renewal equations

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Lemma 3.6 does not follow from (7.5), as claimed, though the proof of (7.5) is correct. If g is a subexponential function with $\int_0^\infty g(s)\,\mathrm{d}s = 1$, the proof of (7.5) still holds. In fact, if $\beta_n = \sup_{t\geqslant 0} g^{(*n)}(t)/g(t)$,

$$\beta_{n+1} \leqslant c(\epsilon) + (1+\epsilon)\beta_n, \quad n \geqslant 2,$$

where $c(\epsilon)$ is a constant independent of n. Therefore, there is a constant $\kappa_1(\epsilon)$, independent of n, such that $\beta_n \leqslant \kappa_1(\epsilon)(1+\epsilon)^n$ for all $n \geqslant 2$. To prove Lemma 3.6, let h be a subexponential function with $\int_0^\infty h(s)\,\mathrm{d}s = \mu$. Applying the above estimate to $g = h/\mu$ yields that

$$\sup_{t\geqslant 0} \frac{h^{(*n)}(t)}{h(t)} \leqslant \kappa(\epsilon)(1+\epsilon)^n \mu^n,$$

where $\kappa(\epsilon) = \kappa_1(\epsilon)/\mu$, which is the conclusion of Lemma 3.6.

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