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*Asymptotic behavior of solutions to a Volterra equation*

In this talk we study the asymptotic behavior of solutions to the equation

$$\begin{cases} u'(t) = Au(t) + \displaystyle\int_0^t a(t-s)Au(s)ds, \; t \geq 0 \\ u(0) = x, \end{cases} \tag{1}$$

where $a(t) := \alpha \frac{t^{\mu-1}}{\Gamma(\mu)} e^{-\beta t}$, $\alpha, \beta, \mu \in \mathbb{R}$. Under appropriate assumptions on $\alpha, \beta, \mu$ and $A$ we prove that the solution $u$ to equation (1) is uniform exponential stable, that is, there exist $C, \omega > 0$ such that for each $x \in D(A)$, the solution $\|u(t)\| \leq Ce^{-\omega t}\|x\|$ for all $t \geq 0$.