PSEUDO ASYMPTOTIC PERIODIC SOLUTIONS TO MULTI-TERM FRACTIONAL EQUATIONS

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ABSTRACT. We study the existence and uniqueness of solutions for the semi-linear fractional order differential equation

$$(0.1) \qquad D_t^{\alpha+1} u(t) + \mu D_t^{\beta} u(t) - Au(t) = D_t^{\alpha} h(t,u(t)), \quad t \geq 0, \quad 0 < \alpha \leq \beta \leq 1, \quad \mu > 0,$$

on a certain class of Banach spaces. Here, A is an ω-sectorial operator of angle $\beta \pi / 2$, D_t^{γ} denotes the Caputo fractional derivative of order γ and $u(0) = x$ and $u'(0) = y$. We are mainly interested in pseudo asymptotic almost periodic mild solutions for this abstract fractional multi-term differential equation.

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Hour: 11:30 AM

Room: Por anunciarse