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Stepanov-like Almost Automorphic Solutions of Abstract Fractional Differential Equations with Nonlocal Initial Conditions.

We consider the existence and uniqueness of Stepanov-like almost automorphic solution of abstract fractional differential equations with nonlocal Initial COnditions:

$$D_t^\alpha u(t) = Au(t) + f(t, u(t)), u(0) + g(u) = u_0, \quad t \geq 0$$

where the linear operator $A : D(A) \subset X \rightarrow X$ is the infinitesimal generator of an exponentially stable C_0 -semigroup $\{T(t)\}_{t \geq 0}$ on Banach space X and $f : \mathbb{R} \times X \rightarrow X$ satisfies a Lipschitz-type condition with respect to second argument. (Received August 25, 2009)