Meeting: 1004, Bowling Green, Kentucky, SS 7A, Special Session on Semigroups of Operators and Applications

1004-34-22 **Toka Diagana*** (tdiagana@howard.edu), Department of Mathematics, Howard University, 2441 6th Street, N.W, Washington, DC 20059. *Existence and Uniqueness of Almost Automorphic Solutions to a Class of Semilinear Differential Equations.* Preliminary report.

We examine sufficient conditions which do guarantee the existence and uniqueness of almost automorphic solutions to the class of semilinear differential equations of the form

$$(E) \qquad u'(t) = Au(t) + Bu(t) + f(t, Cu(t)), \quad \forall t \in \mathbb{R},$$

where A, B are densely defined closed unbounded linear operators on a Hilbert space $\mathbb{H}$, $C : \mathbb{H} \mapsto \mathbb{H}$ is a nonzero bounded linear operator, and $f : \mathbb{R} \times \mathbb{H} \mapsto \mathbb{H}$ is a jointly continuous function. Under some additional assumptions on A, B, C, and f, the existence and uniqueness of an almost automorphic solution to (E) is obtained.

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