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Dimplekumar N Chalishajar* (dipu17370@yahoo..com), 439, Mallory Hall, Department of Mathematics and computer Sc., Virginia Military Institute (VMI), Lexington, VA 24450, and **Falguni S Acharya** (falguni_69@yahoo.co.in), Department of Mathematics, Parul Insti. of Tech and Engg., Waghodia, Vadodara, GU 390002, India. *Trajectory Controllability of Integro differential second order semilinear system in Banach space.*

In this paper we have introduced the new notion of controllability called Trajectory (T)-controllability. This new notion can provide safe guard to the system and it minimize the cost also. Here we have studied first order system for one dimensional case R and then it is extended for n -dimensional case R^n and subsequently for infinite dimensional case. Then the same are proved for second order system also. The useful tools for this investigation is monotone operator theory and semigroups/cosine operators. Examples are provided to illustrate the theory.

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