FRESNO STATE
College of Science and Mathematics

DEPARTMENT OF MATHEMATICS
2017 Fall Math Seminar Series

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On the Gevrey Ultradifferentiability of Weak Solution of an Abstract Evolution Equation with a Scalar Type Spectral Operator

Abstract:

Found are conditions on a scalar type spectral operator A in a complex Banach space necessary and sufficient for all weak solutions of the evolution equation

$$y'(t) = Ay(t), \ t \geq 0,$$

to be strongly Gevrey ultradifferentiable of order $\beta \geq 1$, in particular analytic or entire, on $[0, \infty)$ or $(0, \infty)$. Certain inherent smoothness improvement effects are analyzed. It is shown that, if all weak solutions are Gevrey ultradifferentiable of orders $0 \leq \beta < 1$, then the operator A is necessarily bounded.

Friday, October 13, 2017
PB 103
11:00am –12:00pm

If you need a disability-related accommodation or wheelchair access information, please contact Steve Chung at (559) 278-2462 or e-mail schung@csufresno.edu.