

GRADUATE SEMINAR

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E-Semigroups and Product Systems

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3:30 - 4:30 PM

CL 410

Abstract. E_0 -semigroups are weak*-continuous one-parameter semigroups $\rho = \{\rho_t\}_{t \geq 0}$ of unital normal *-endomorphisms acting on a von Neumann algebra, M . A central problem for these objects is to fully describe the class of E_0 -semigroups satisfying

$$\bigcap_{t \geq 0} \rho_t(M) = \mathbb{C} \cdot 1$$

which are called pure E_0 -semigroups. My research concerns a generalization of this class which we refer to as quasi-pure E_0 -semigroups.

In this talk, I will survey some key results concerning semigroups acting on the von Neumann algebra of bounded linear operators on a separable, infinite dimensional Hilbert space. I will introduce quasi-pure semigroups in this setting as well as the notion of product system used by W. Arveson for examining endomorphism semigroups.