

Dynamical Frames and Hyperinvariant Subspaces

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A known result in dynamical sampling (due to Ole Christensen etc.) states that every two dynamical frames of the form $\{T^n \xi\}_{n \geq 0}$ and $\{T^n \eta\}_{n \geq 0}$ for a Hilbert space H are equivalent. In this talk I will discuss a generalization of this result to the case when the dynamical frames are generated by several commuting operators $T_1, \dots, T_k$. This generalization is achieved by obtaining a characterization of the so-called “central” semigroup frame representations in terms of hyperinvariant subspaces for the left regular representation of a (not necessarily commutative) semigroup. This is a joint work with Victor Bailey, Keri Kornelson, David Larson and Rui Liu.

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