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TIGHT PROJECTIONS OF FRAMES ON INFINITE DIMENSIONAL HILBERT SPACES

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Abstract. We characterize the frames on an infinite dimensional separable Hilbert space that can be projected to a tight frame for an infinite dimensional subspace. A result of Casazza and Leon states that an arbitrary frame for a $2N-$ or $(2N-1)$-dimensional Hilbert space can be projected to a tight frame for an N-dimensional subspace. Surprisingly, we demonstrate a large class of frames for infinite dimensional Hilbert spaces which cannot be projected to a tight frame for any infinite dimensional subspace.

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