TIGHT PROJECTIONS OF FRAMES ON INFINITE DIMENSIONAL HILBERT SPACES

JOHN JASPER

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.


Keywords and phrases: Frames, projections of frames, compressions.

REFERENCES