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α -Phase Retrieval frame in Hilbert space and its Application[☆]

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Abstract

In present work, the properties of α -Phase retrieval frame with a redundant set of vectors under perturbation of the frame set has been discussed. We provided the necessary and sufficient condition to exist in the exact reconstruction using α -Phase retrieval frame. The deletion of the noise for the reconstructed signal has been discussed. Finally, this paper provided if bounded nonlinear operator L^α on infinite dimensional complex Hilbert space is a global phase shift, then Kernel of the operator is spanning a set of the vector.

Keywords: Frame, Orthonormal basis, Hilbert space, Phase retrieval, Signal reconstruction

2010 MSC: Primary 46C05, 42C15; Secondary 94A15

1. Introduction

The domain of Hilbert space is the best one when compared to other space as Banach space for application of signal and image processing. We are well known that every Hilbert space is Banach space because inner products induce norms and they are complete but its converse need not hold. The achievement of Hilbert space ushered in an awfully fertile era for functional analysis. Apart

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