Exact Phase-Retrievable Frames

WENCHANG SUN

School of Mathematical Sciences and LPMC, Nankai University, China

Email: sunwch@nankai.edu.cn

An exact phase-retrievable frame $\{f_i\}_i^N$ for an n-dimensional Hilbert space is a phase-retrievable frame that fails to be phase-retrievable if any one element is removed from the frame. Such a frame could have different lengths. We shall prove that for the real Hilbert space case, exact phase-retrievable frame of length N exists for every $2n-1 \le N \le n(n+1)/2$. For arbitrary frames we introduce the concept of redundancy with respect to its phase-retrievability and the concept of frames with exact PR-redundancy.

This is a joint work with Deguang Han, Ted Juste and Youfa Li.