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# MAXIMAL SUBSPACES ON HILBERT SPACES

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**Abstract**

A kind of finite dimensional maximal subspaces were introduce by Courant in finite dimensional case [2]. In this paper, we introduce these subsets for any Complex Hilbert space H and investigate some basic properties of them. As a result we show that for any such subspaces D, any h 2 H has a unique representation h = x + iy for (x, y) 2 D and $i_2 = -1$. we also discuss some applications.

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Key Words : Hilbert spaces, Maximally isotropic, Uniqueness theorem.

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