Two geometric constants related to isosceles orthogonality on Banach space. (English)

Summary: In this paper, we introduce new geometric constant $C(X, a_i, b_i, c_i, 2)$ to measure the difference between isosceles orthogonality and special Carlsson orthogonalities. At the same time, we also present the geometric constant $C(X, a_i, b_i, c_i)$, which is a generalization of the rectangular constant proposed by Joly. According to the inequality on isosceles orthogonality, we give the boundary characterization of these geometric constants. Then the relationship between these geometric constants and uniformly non-square property can also be discussed. Furthermore, we show that there is a close relationship between these geometric constants and some important geometric constants.

MSC:

46B20 Geometry and structure of normed linear spaces
46C15 Characterizations of Hilbert spaces

Keywords:
isosceles orthogonality; geometric constants; characterization of inner product space; uniformly non-square

Full Text: Link

References:


This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.