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*Doubleton Projections in Real Hilbert Spaces*

Suppose  $X$  is a real Hilbert space. We say a set  $C \subseteq X$  admits a Continuous Doubleton Projection if there is a point  $x \in X \setminus C$  that projects onto exactly two points of  $C$ , and that the metric projection map  $P_C$  is upper-semicontinuous at  $x$ .

We present two conditions equivalent to  $C$  failing to admit a doubleton projection: a property related to (but stronger than) connectedness called  $B^\circ$ -Connectedness, and a property we call Locally-Determined Set Curvature.

These results tell us some non-trivial geometric facts about Chebyshev sets in real Hilbert Spaces. Such sets are the subject of a long-standing open problem known as the Chebyshev Conjecture.