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A geometric characterization of the threshold strong dimension of a graph

The *threshold strong dimension* of a graph G , denoted $\tau_S(G)$, is the smallest strong dimension among all graphs having G as a spanning subgraph. We give a geometric characterization of the threshold strong dimension. It expresses $\tau_S(G)$ in terms of the smallest number of paths (each of sufficiently large order) whose strong product admits a certain type of embedding of G . This characterization leads to several results. This is joint work with Nadia Benakli, Novi H. Bong, Shonda Dueck (Gosselin), Linda Eroh, and Ortrud Oellermann.