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Erdős, Paul; Preiss, D.

Decomposition of spheres in Hilbert spaces. (In English)

Commentat. Math. Univ. Carol. 17, 791-795 (1976). [0010-2628]

We join two points of the unit sphere of the Hilbert space of $\aleph_{\alpha+2}$ dimension by edge if their distance is greater than $3/2$. By using the generalized continuum hypothesis there is proved that the chromatic number of this graph is $\aleph_{\alpha+1}$ and that every subgraph spanned by $\aleph_{\alpha+1}$ vertices has chromatic number $\leq \aleph_{\alpha}$.

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Classification:

05C15 Chromatic theory of graphs and maps