On the distance α-spectral radius of graphs

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For a connected graph G and $\alpha \in [0, 1)$, the distance α-spectral radius of G is the spectral radius of the matrix $D_\alpha(G)$ defined as $D_\alpha(G) = \alpha T(G) + (1 - \alpha)D(G)$, where $T(G)$ is a diagonal matrix of vertex transmissions of G and $D(G)$ is the distance matrix of G. We give bounds for the distance α-spectral radius, especially for graphs that are not transmission regular, propose some graft transformations that decrease or increase the distance α-spectral radius, and determine the unique graphs with minimum and maximum distance α-spectral radius among some classes of graphs.