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Wasin So* (wasin.so@sjsu.edu). *Distance energy change of graphs due to edge deletion*. Preliminary report.

The distance matrix of a connected graph records the distance between each and every pair of vertices. It is a well studied concept in literature. Recently, much attention is given to the distance energy of a connected graph, which is defined as the sum of the absolute values of the eigenvalues of its distance matrix. We are interested in the problem of studying how distance energy changes when edges are deleted. The goal is to characterize those connected graphs and their edges such that the deletion of such edges increases the distance energy. The full characterization is still not known. In this talk, we report some known results in literature and the new result about complete bipartite graphs. Conjectures related to computational experiments will also be mentioned. (Received September 22, 2017)