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and **Ashwin Sah**. *On the Discrepancy Between Two Zagreb Indices*.

We examine the quantity

$$S(G) = \sum_{uv \in E(G)} \min(\deg u, \deg v)$$

over sets of graphs with a fixed number of edges. The main result shows the maximum possible value of $S(G)$ is achieved by three different classes of constructions, depending on the distance between the number of edges and the nearest triangular number. Furthermore we determine the maximum possible value when the set of graphs is restricted to be bipartite, a forest, or to be planar given sufficiently many edges. The quantity $S(G)$ corresponds to the difference between two well studied indices, the irregularity of a graph and the sum of the squares of the degrees in a graph. These are known as the first and third Zagreb indices in the area of mathematical chemistry. (Received September 20, 2018)