ZILIN JIANG, Arizona State University
Median eigenvalues of subcubic graphs

We present a resolution to conjectures by Fowler, Pisanski, and Mohar regarding the median eigenvalues of subcubic (chemical) graphs. Specifically, we prove that the median eigenvalues of every connected graph with maximum degree at most three, except for the Heawood graph, lie within the interval [-1, 1]. This result has significant implications in mathematical chemistry, particularly in the analysis of molecular orbital models, and extends prior work on bipartite chemical graphs.