

Distance integral graphs

Milan Pokorný

(joint work with Pavel Híc, Marko Milošević, and Dragan Stevanović)

The D-eigenvalues of a connected graph G are the eigenvalues of its distance matrix D , and form the D-spectrum of G . A graph is called distance integral (D-integral) if its distance spectrum consists entirely of integers. In section 3 we establish all D-integral graphs up to 10 vertices. In section 4 we characterize all distance integral graphs in the complete split graphs, multiple complete split-like graphs, extended complete split-like graphs and multiple extended split-like graphs. In section 5 we characterize new classes of D-integral graphs based on graph operations. These characterizations allow us to exhibit many infinite families of D-integral graphs.