
GUILLAUME DUCOFFE, University of Bucharest, Romania

Faster computation of graph diameter by using one (or two) properties of the interval graphs

For communication networks, and many others, important characteristics such as maximum communication delays, and centralities of nodes, can be derived from the computation of classic graph parameters, such as diameter, radius, average distance and median. One can solve all these problems in linear time on interval graphs, but which of these properties of this graph class are the true reason? We will review whether similar computational results can be achieved by relaxing the definition of interval graphs and/or keeping only a few of their nice properties (say, Helly property of the balls, chordality, AT-freeness, bounded VC-dimension, etc.).