

Mixed Unit Interval Graphs, 50% Tolerance Graphs, and Boolean Endpoints

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Rautenbach and Szwarcfiter discovered that incorporating both open and closed intervals into the representation extends the class of unit interval graphs to a larger family of graphs. This work was further extended by Shuchat, Shull, Trenk and West and independently by Joos to intervals with mixed endpoints. The class of unit 50% tolerance graphs is identical to the class of unit interval graphs, however here we demonstrate, that when including both open and closed intervals or possibly mixed intervals we extend the class of unit interval graphs to different classes than either of the previously mentioned examples. Furthermore, the methods of investigation suggest other possible class extensions created by applying various logical operators to the endpoints of the intervals.

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