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Bounds on the diameters of Hochster-Huneke graphs. Preliminary report.

Given an ideal in a polynomial ring, S, one can form a graph from the minimal prime ideals of $R = S/I$, where the vertices of the graph are the minimal prime ideals of R and an edge connects two vertices, v_1, v_2 if and only if height $(v_1 + v_2) \leq 1$. It is known as the Hochster-Huneke or dual graph of R. The S_2 property of R implies the connectedness of this graph. We will discuss lower bounds and upper bounds for the diameter of the dual graph in the case that R is S_2 and I is a square free monomial ideal. (Received August 12, 2015)