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Libby Taylor* (libbyrtaylor@gmail.com), **Heather Smith**, **Fidel Barrera-Cruz** and **Tom Trotter**. *Boolean Dimension, Local Dimension, and Ramsey Theory on Binary Trees*. Preliminary report.

In this paper, we explore two variants of Dushnik-Miller dimension on posets, namely boolean dimension and local dimension. In our main result, we prove that the local dimension of a poset is not bounded in terms of the tree-width of its cover graph. The proof requires the development of some ramsey-theoretic tools for a class of posets called binary trees, which may prove to be of independent interest. In addition, we prove that the local dimension of a poset is not bounded in terms of its boolean dimension. (Received January 16, 2017)