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James P Cossey* (cossey@uakron.edu), Dept of Mathematics, University of Akron, Akron, OH 44325-4002. *Brauer graphs of blocks of finite groups.*

(Joint work with Mark Lewis and I.M. Isaacs) The p -blocks of the finite group G capture the interplay between the ordinary characters and the p -Brauer characters. In this talk we examine the Brauer graph of a block B , which is a graph with vertices labeled by the ordinary irreducible characters in B and with two vertices being adjacent if and only if they share a Brauer character in the restriction to p -regular elements. In particular, we will look at blocks of groups of odd order and blocks of symmetric groups, and give bounds on the diameters of the Brauer graphs in each case. (Received January 06, 2015)