1056-05-1582 **Stefan Felsner**, **Chingman Li** and **William T. Trotter*** (trotter@math.gatech.edu), School of Mathematics, Georgia Institute of Technology, Atlanta, GA 30332. *Adjacency Posets of Planar Graphs.*

In this paper, we show that the dimension of the adjacency poset of a planar graph is at most 8. From below, we show that there is a planar graph whose adjacency poset has dimension 5. We then show that the dimension of the adjacency poset of an outerplanar graph is at most 5. From below, we show that there is an outerplanar graph whose adjacency poset has dimension 4. We also show that the dimension of the adjacency poset of a planar bipartite graph is at most 4. This result is best possible. More generally, the dimension of the adjacency poset of a graph is bounded as a function of its genus. (Received September 22, 2009)