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Rachelle R Bouchat* (rbouchat@ms.uky.edu), 719 Patterson Office Tower, University of Kentucky, Lexington, KY 40506-0027. *Free Resolutions of Edge Ideals Corresponding to Simple Graphs*. Preliminary report.

Given a simple graph G , the corresponding edge ideal I_G is the ideal generated by the edges of G . The physical structure of the planar graph G provides insight into the algebraic properties of the minimal free resolution of S/I_G , where S is the polynomial ring over a field with variable set equal to the vertex set of G . In this talk, we will discuss the relationships between the planar graph G and the quotient ring S/I_G and how these relationships can be used to provide information regarding the algebraic structure of S/I_G . (Received February 11, 2008)