ON MEASURES OF NONPLANARITY OF CUBIC GRAPHS

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In this talk, we consider two measures of nonplanarity of cubic graphs G, the (orientable) genus $g(G)$ and the edge deletion number $ed(G)$. We compare these two measures with another one, the rectilinear crossing number $\overline{cr}(G)$. The genus minimal and the edge deletion number minimal graphs are introduced and studied for small orders n. We establish some additivity properties of the graph parameters $g(G)$ and $ed(G)$ with respect to the operations of connected sum and double connected sum of cubic graphs. We also provide upper bounds for the order of l-minimal graphs with respect to the parameters g and ed. Some open problems are posed.