



SEMINARIUM MATEMATYKA DYSKRETNA

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ON TWO MEASURES OF NONPLANARITY OF CUBIC GRAPHS OF CLASS 2

LEONID PLACHTA
WMS AGH

In this talk, we consider two measures of nonplanarity of a graph G , the (orientable) genus $g(G)$ and the edge deletion $ed(G)$. The second number is defined to be the minimum number of edges whose removal from G defines a planar graph. Here we focus mainly on estimating the numbers $g(G)$ and $ed(G)$ for some particular snarks of small order that are well known among graph theoreticians. Then we relate the two topological characteristics mentioned above to the dot product and the other binar operations on graphs and estimate them for special cases of cubic graphs obtained from elementary ones in this way. We also address several questions concerning the estimation of numbers $g(G)$ and $ed(G)$. Finally we discuss the construction via the dot product and other binar operations of optimal in some sense cubic graphs of class 2.