

ON THE ZEROS OF SOME GENUS POLYNOMIALS

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ABSTRACT. In the genus polynomial of the graph G , the coefficient of x^k is the number of distinct embeddings of the graph G on the oriented surface of genus k . It is shown that for several infinite families of graphs all the zeros of the genus polynomial are real and negative. This implies that their coefficients, which constitute the genus distribution of the graph, are log concave and therefore also unimodal. The geometric distribution of the zeros of some of these polynomials is also investigated and some new genus polynomials are presented.

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