

The Chromatic Polynomial and Cohomology of Graphs

The chromatic polynomial of a graph is a polynomial in n which gives the number of ways of coloring the vertices of a graph in n colors so that no two adjacent vertices have the same color. Recently, L. Helme-Guizon and Y. Rong from George Washington University suggested a definition of a chain complex of a graph so that the graded Euler characteristic of this complex is the chromatic polynomial. In this talk, I will describe this chain complex and some interesting results about the calculations of the corresponding homology groups.