

The maximum number of cycles in a graph.

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In 1897, Ahrens gave bounds on the number of cycles in a graph using the cyclomatic number. Since then, many results on maximum number of cycles in graphs with different restrictions have been considered.

I will present recent results on maximum number of cycles in two classes of graphs: graphs with a fixed number of vertices and edges, and graphs with only a fixed number of edges. Also, for the maximum number of cycles in a multigraph with fixed number of vertices and edges, exponentially tight bounds are given. This is joint work with Sergei Tsaturian.