

## Circulant graphs and Jacobians

*Ilya Mednykh*

*Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia*

*Novosibirsk State University, Novosibirsk, Russia*

*ilyamednykh@mail.ru*

We consider Jacobians of graphs as discrete analogues of Jacobians of Riemann surfaces. More precisely, Jacobian of graph is an Abelian group generated by flows satisfying the first and the second Kirchhoff rules. We define a circulant graph as the Cayley graph of a cyclic group. The family of circulant graphs is quite wide. It includes complete graphs, cyclic graphs, antiprism graphs, even prism graphs and Moebius ladder graph. We propose a new method to find the structure of Jacobians for a large subfamily of circulant graphs.