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DEPARTAMENTO DE MATEMÁTICA Y ESTADÍSTICA – UFRO

ON JACOBIANS OF CIRCULANT GRAPHS

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ABSTRACT.

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. One also can 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.

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