



SEMINARIUM MATEMATYKA DYSKRETNA

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DECOMPOSITIONS OF COMPLETE BIPARTITE GRAPHS INTO PRISMS

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A *generalized prism*, or more specifically an $(0, j)$ -prism of order $2n$ (where n is even) is a cubic graph consisting of two cycles u_0, u_1, \dots, u_{n-1} and v_0, v_1, \dots, v_{n-1} joined by two sets of spokes, namely $u_1v_1, u_3v_3, \dots, u_{n-1}v_{n-1}$ and $u_0v_j, u_2v_{j+2}, \dots, u_{n-2}v_{j-2}$.

The question of factorization of complete bipartite graphs into $(0, j)$ -prisms was completely settled by the author and S. Cichacz. Some partial results on decompositions of complete bipartite graphs have also been obtained by S. Cichacz, DF, and P. Kovar, and on decompositions of complete graphs S. Cichacz, S. Dib, and DF. The problem of decomposition of complete graphs into prisms of order 12 and 16 was completely solved by S. Cichacz, DF and M. Meszka.

We will present a complete solution for the decomposition of complete bipartite graphs into $(0, 0)$ -prisms (that is, the usual prisms).

We will also show why the method used for this problem works particularly well in Duluth, Minnesota, U.S.A.