



## SEMINARIUM MATEMATYKA DYSKRETNA

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# DECOMPOSITIONS OF COMPLETE BIPARTITE GRAPHS INTO PRISMS REVISITED

OR

**“I RETRACT WHAT I HAVE RETRACTED,  
AND PROMISE WHAT I HAVE PROMISED”**

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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.

On January 8, 2014 I presented what I had believed was a complete solution for the decomposition of complete bipartite graphs into  $(0, 0)$ -prisms (that is, the usual prisms).

In the same talk I mentioned my presentation in March 2014 in Boca Raton, Florida, where I had to admit that the results I had promised in my abstract were not covering any new cases, but rather just re-proved previously known results.

This time, I will reverse both the above statements. Or, as the famous saying goes, I will retract what I have retracted, and promise what I have promised.

Keywords: Graph decomposition, cubic graph, generalized prism