

# AN EXPERIMENTAL RESULT ON THE ERDÖS-GYÁRFÁS CONJECTURE IN BIPARTITE GRAPHS

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Erdős and Gyárfás conjectured that, every graph with minimum degree at least three has a cycle whose length is a power of 2, [1]. There seems to be very little published on the Erdős-Gyárfás Conjecture. There exist the following experimental results on this conjecture. G. Royle (via computer searches) showed that any counterexample to this conjecture must have at least 17 vertices. Markström [2] (again via computer searches) asserted that any cubic counterexample must have at least 30 vertices. Here, we prove that any bipartite counter example must have at least 30 vertices.

**Keywords:** Erdős-Gyárfás conjecture, Bipartite Graphs, Cycles.

**AMS Subject Classification:** 05C38, 05C35.

## References

- [1] P. Erdős, Some old and new problems in various branches of combinatorics, *Discrete Math.*, **165/166** (1997), 227–231.
- [2] K. Markström, Extremal graphs for some problems on cycles in graphs, *Congr. Numer.*, **171** (2004), 179-192.