On bipartite biregular large graphs derived from difference sets

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A bipartite graph $G = (V, E)$ with $V = V_1 \cup V_2$ is biregular if all the vertices of each stable set, V_1 and V_2, have the same degree, r and s, respectively. This paper studies difference sets derived from both Abelian and non-Abelian groups. From them, we propose some constructions of bipartite biregular graphs with diameter $d = 3$ and asymptotically optimal order for given degrees r and s. Moreover, we find some biMoore graphs, that is, bipartite biregular graphs that attain the Moore bound.

References

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