(a, d)-antimagic labelings

The weight $w(v)$ of a vertex $v \in V(G)$ under an edge labeling $g : E \to \{1, 2, ..., |E|\}$ is the sum of the labels of edges incident to the vertex v.

A connected graph $G = (V, E)$ is said to be (a, d)-*antimagic* (K. Wagner and R. Bodendiek, 1993) if there exist positive integers a, d and bijection $g : E(G) \to \{1, 2, ..., |E(G)|\}$ such that the induced mapping $\delta_g : V(G) \to W$ is also a bijection, where $W = \{w(v) : v \in V(G)\} = \{a, a + d, ..., a + (|V(G)| - 1)d\}$ is the set of weights of vertices.

The following papers deal with (a, d)-antimagic labelings.

• Miller, M. - Bača, M. - Lin, Y.: *On two conjectures concerning* (a, d)*-antimagic labellings of antiprisms*, **The Journal of Combinatorial Mathematics and Combinatorial Computing (JCMCC) 37** (2001), 251-254.

• Miller, M. - Bača, M.: *Antimagic valuations of generalized Petersen graphs*, **Australasian Journal of Combinatorics 22** (2000), 135-139.

• Bača, M.: *Antimagic labelings of antiprisms*, **The Journal of Combinatorial Mathematics and Combinatorial Computing (JCMCC) 35** (2000), 217-224.

• Bača, M.- Holländer, I.: *On (a,d)-antimagic prisms*, **Ars Combinatoria 48** (1998), 297 - 306.

(a, d)-vertex-antimagic total labelings

The vertex-weight $wt(x)$ of a vertex $x \in V$, under a labeling $f : V \cup E \to \{1, 2, \ldots, |V| + |E|\}$, is the sum of values $f(xy)$ assigned to all edges incident to a given vertex x together with the value assigned to x itself.

A bijection $f : V \cup E \to \{1, 2, \ldots, |V| + |E|\}$ is called an *(a,d)-vertex-antimagic total labeling* of G if the set of vertex-weights of all vertices in G is $\{a, a + d, a + 2d, \ldots, a + (|V| - 1)d\}$, where $a > 0$ and $d \geq 0$ are two fixed integers.
Such labeling is said to be *super* if the vertices of G receive the labels $1, 2, \ldots, |V|$.

The following papers deal with the (a, d)-vertex-antimagic total labelings.

• Ahmad, A. - Ali, K. - Bača, M. - Kovař, P. - Semaničová -Feňovčíková, A.: *Vertex-antimagic labelings of regular graphs*, **Acta Math. Sinica - English Series 28**, Issue 9 (2012), 1865-1874.

• Sugeng, K.A. - Herawati, B.N. - Miller, M. - Bača, M.: *On magicness and antimagicness of the union of* 4*-regular circulant graphs*, **Australasian Journal of Combinatorics 50** (2011), 141-153.

• Ali, G. - Bača, M.- Lin, Y. - Semaničová -Feňovčíková, A.: *Super-vertex-antimagic total labelings of disconnected graphs*, **Discrete Math. 309** (2009), 6048-6054.

• Ali, G. - Bača, M.- Bashir, F.: *On super vertex-antimagic total labelings of disjoint union of paths*, **AKCE J. Graphs. Combin. 6**, No.1 (2009), 11-20.

• Bača, M.- Youssef, M.Z.: *Further results on antimagic graph labelings*, **Australasian Journal of Combinatorics 38** (2007), 163-172.

• Sugeng, K.A.- Miller, M.- Lin, Y. - Bača, M.: *Super (a,d)-vertex- antimagic total labelings*, **The Journal of Combinatorial Mathematics and Combinatorial Computing (JCMCC) 55** (2005), 91-102.

• Bača, M. - Bertault, F. - MacDougall, J.A. - Miller, M. - Simanjuntak, R. - Slamin: *Vertex-antimagic total labelings of graphs*, **Discussiones Math. Graph Theory 23** (2003), 67-83.

• Bača, M. - MacDougall, J.A. - Miller, M. - Slamin - Wallis, W.D.: *Survey of certain valuations of graphs*, **Discussiones Math. Graph Theory 20** (2000), 219-229.