INTEGRITY OF GRIDS

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The integrity of a graph $G = (V, E)$ is defined as the smallest sum $|S| + m(G - S)$, where S is a subset of the set V, and $m(H)$ denotes the order of the largest component of the graph H.

Benko, Ernst, and Lanphier provided and proved an asymptotic bounds for planar graphs in terms of the order of the graph. We prove asymptotic results concerning two-dimensional grid-graphs.

References

[1] D. Benko, C. Ernst, D. Lanphier, Asymptotic bounds on the integrity of graphs and separator theorems for graphs, SIAM Journal on Discrete Mathematics 23 (2009), 265—277.

[2] A. Żak, A note of integrity. Discrete Applied Mathematics 341 (2023), 55—59.