

FROM BINARY SEARCH THROUGH GAMES TO GRAPHS

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The talk focuses on some generalisations of binary search in a multidimensional or graph environment. They can be viewed as a game between the Adversary, who hides the target in this environment and responds to the Algorithm, which in turn, tries to find the target minimizing the number of queries.

We will provide some bounds for the number of queries, including bounds for random graphs and discuss the complexity of the optimal strategy for the Algorithm.

The talk is based on joint works with Dariusz Dereniowski (Gdańsk), Paweł Prałat (Toronto) and Karolina Wróbel (Łódź).

References

- [1] D. Dereniowski, P. Gordinowicz, P. Prałat, Edge and Pair Queries—Random Graphs and Complexity, to appear in *Electronic Journal of Combinatorics*.
- [2] D. Dereniowski, P. Gordinowicz, K. Wróbel, Goal seek for a discrete multi-criteria problem, in preparation.