

Long monochromatic paths in 2-coloured random tournaments

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Given a tournament on n vertices, it is not hard to see that there is a 2-colouring of the edges such that the longest monochromatic directed path has length $O(n/\sqrt{\log n})$. We show that for almost all tournaments, this bound is tight. I.e., for almost all tournaments, given any 2-colouring, there is a monochromatic directed path of length at least $\Omega(n/\sqrt{\log n})$. This is joint work with Matija Bucić and Benny Sudakov.