Chromatic index of random multigraphs

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Let G be a loopless multigraph with maximum degree d. It is clear that d is a lower bound for the chromatic index of G (the smallest k such that $E(G)$ can be partitioned into k matchings). A long-standing conjecture due to Goldberg and (independently) Seymour states that the chromatic index of G takes one of only three possible values: d, $d+1$ or a certain other parameter of G, that is closely related to the fractional chromatic index of G (and is also a natural lower bound for the chromatic index). Here we prove this conjecture for random multigraphs. In fact we prove the stronger statement that the value $d+1$ is not necessary for the random case. We will discuss various graph theoretical tools used in the proof, in particular the method of Tashkinov trees (which has been a key component of much of the progress on this conjecture to date).