LIST MAJORITY EDGE-COLOURINGS OF GRAPHS

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A colouring of edges of a graph G is a majority colouring, if for every vertex v of G, at most half the edges incident with v have the same colour. This concept was recently introduced in [1] where, among others, we proved that every finite graph without pendant vertices admits a majority 4-edge colouring. Moreover, if the minimum degree of G is at least 4, then G admits a majority 3-edge colouring.

In the talk, the list version of the problem will be investigated, also for infinite graphs. As a consequence of our results, the Unfriendly Partition Conjecture is confirmed for line graphs.

References

[1] F. Bock, R. Kalinowski, J. Pardey, M. Pilśniak, D. Rautenbach, and M. Woźniak, Majority Edge-Colorings of Graphs, *Electron. J. Combin.* 30(1) 2023 #P1.42.