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ON GENERALIZED MAJORITY COLORINGS

A *majority coloring* of a directed graph is a vertex coloring in which each vertex has the same color as at most half of its out-neighbors. In this note we simplify some proof techniques and generalize previously known results on various variants of majority coloring. In particular, our unified and simple approach gives the best known results for:

- directed and undirected graphs,
- $\frac{1}{k}$ -majority colorings (each vertex has the same color as at most $\frac{1}{k}$ of its out-neighbors),
- weighted edges,
- list colorings (choosability),
- on-line list colorings (paintability),
- non-uniform list lengths,
- *ranked* colors.

This is joint work with Bartłomiej Bosek, Jarosław Grytczuk, Grzegorz Gutowski, Jakub Przybyło and Mariusz Zając.