

# Discrete Mathematics & Combinatorics

An iterative version of the naive colouring procedure

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The naive colouring procedure is a randomised colouring algorithm which has been successfully applied to several problems in graph colouring. Together with the probabilistic method, the procedure can be used to prove good upper bounds on the chromatic number of a sufficiently large graph if the neighbourhood of every vertex is somewhat sparse. In this talk we explain the procedure and present a new iterative variant which gives better bounds. Using this, we make progress on Reed's Conjecture and a problem of Erdos and Nešetřil on the strong chromatic index.

This is joint work with Marthe Bonamy and Luke Postle.