

1096-05-784

Katherine Edwards* (ke@princeton.edu), Dept. of Computer Science, 35 Olden Street,
Princeton, NJ 08544, and **Jan van den Heuvel, Ross J Kang** and **Jean-Sebastien Sereni**.

Extensions from precoloured sets of edges.

We consider precolouring extension problems for edge-colouring, in an attempt to prove strengthenings of Shannon's and Vizing's theorems. In particular, we are interested in extending a colouring from an arbitrarily precoloured matching using a minimum number of colours and conjecture that in general, $\Delta + 1$ colours suffice. We overview some progress toward this conjecture and some of its generalizations, and discuss the proof for some classes of graphs. This question turns out to have close connections with the notorious list colouring conjecture as well as other classical notions of choosability. (Received September 10, 2013)