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**Endre Csoka, Gabor Lippner\*** (g.lippner@neu.edu) and **Oleg Pikhurko**. *Measurable edge coloring*. Preliminary report.

The classical theorem of Vizing states that every graph of maximum degree  $d$  admits an edge-coloring with at most  $d + 1$  colors. Furthermore, as it was earlier shown by Kőnig,  $d$  colors suffice if the graph is bipartite.

We investigate the existence of measurable edge-colorings for graphings. A graphing is an analytic generalization of a bounded-degree graph that appears in various areas, such as sparse graph limits and orbit equivalence theory. We show that every graphing of maximum degree  $d$  admits a measurable edge-coloring with  $d + O(\sqrt{d})$  colors; furthermore, if the graphing has no odd cycles, then  $d + 1$  colors suffice. In fact, if a certain conjecture about finite graphs that strengthens Vizing's theorem is true, then our method will show that  $d + 1$  colors are always enough. (Received September 06, 2014)