1138-05-198   **Jessica McDonald*** (`mcdonald@auburn.edu`) and **Gregory J. Puleo**. *t-Cores for* *(Δ + t)-edge-colouring.*

Numerous authors have found sufficient conditions for Δ-edge-coloring a simple graph by studying its *core*, that is, the subgraph induced by the its vertices of maximum degree. In this talk we discuss extending the notion of core to *t-core* – subgraph induced by the vertices v with $d(v) + \mu(v) > \Delta + t$ – and find a sufficient condition for $(\Delta + t)$-edge-coloring. In particular, we show that for any $t \geq 0$, if the t-core of G has multiplicity at most $t + 1$, with its edges of multiplicity $t + 1$ inducing a multiforest, then $\chi'(G) \leq \Delta + t$. This extends previous work of Ore, Fournier, and Berge and Fournier. A stronger version of our result (which replaces the multiforest condition with a vertex-ordering condition) generalizes a theorem of Hoffman and Rodger about cores of Δ-edge-colourable simple graphs. (Received February 09, 2018)