
PIOTR MICEK, Jagiellonian University
Centered colorings and vertex rankings

A vertex coloring ϕ of a graph G is *p-centered* if for every connected subgraph H of G either ϕ uses more than p colors on H or there is a color that appears exactly once on H .

A vertex coloring ϕ of a graph G is an *ℓ -ranking* of G if for every connected subgraph H of G of diameter at most ℓ there is exactly one vertex of maximum color used by ϕ on H .

We are going to use the product structure theorem to deliver the best-known bounds on these parameters for planar graphs.