Relaxed coloring of planar graphs

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A graph $G$ is $(c_1, c_2, \ldots, c_k)$-colorable if the vertex set of $G$ can be partitioned into $k$ sets $V_1, V_2, \ldots, V_k$ such that for every $i \in \{1, 2, \ldots, k\}$ the induced subgraph $G[V_i]$ has maximum degree at most $c_i$. For example, a $(0, 0, 0)$-colorable graph is properly 3-colorable. In this talk, we will give a brief survey on the recent progress towards the Steinberg Conjecture,(strong) Bordeaux Conjecture and related problems in terms of relaxed coloring.

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