1027-05-202   **André Kündgen*** (`akundgen@csusm.edu`), Department of Mathematics, Cal State San Marcos, 333 S Twin Oaks Valley Road, San Marcos, CA 92096. *Constrained coloring problems for planar graphs.* Preliminary report.

A *star coloring* of a graph is a proper vertex-coloring having no 2-colored path with 4 vertices; equivalently, any two color classes together induce a forest of stars. The number of colors needed is bounded for planar graphs, but the optimal bound remains elusive.

We survey recent results on star colorings of families of graphs, such as planar graphs of high girth. We also describe methods for tackling such problems and present a number of challenging open problems. (Received February 26, 2007)