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We consider the problem to partition the edge set of a planar graph into a forest and a graph with small maximum degree. Results on this problem can be used to derive upper bounds on the game chromatic number and the game coloring number of the corresponding planar graphs.

We show that a planar graph of girth at least 9 can be decomposed into a forest and a matching, and a  $C_4$ -free planar graph can be decomposed into a forest and a graph with maximum degree at most 7. These results improve the ones obtained by He et al and Kleitman et al. (Received September 05, 2007)