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Y Zhao* (yzhao@mail.ucf.edu), Department of Mathematics, University of Central Florida,
Orlando, FL 32816. *Upper bounds for $\Delta(\Sigma)$ where $-53 \leq \chi(\Sigma) \leq -8$.*

Vizing's Planar Graph Conjecture states that every planar graph of maximum degree at least 6 is class one. If for a surface Σ , we define $\Delta(\Sigma) = \max\{\Delta(G) : G \text{ is a connected class two graph of maximum degree } \Delta \text{ that is embedded in } \Sigma\}$, then one can claim that for a surface Σ , any connected graph of maximum degree Δ that is embedded in Σ is class one if $\Delta > \Delta(\Sigma)$. Further, Vizing's Planar Graph Conjecture also can be restated as $\Delta(S) = 5$ if S is a sphere. In this talk, we will focus on $\Delta(\Sigma)$ and upper bounds for $\Delta(\Sigma)$ for surfaces Σ of characteristic $-53 \leq \chi(\Sigma) \leq -8$. (Received January 24, 2019)