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Debarun Ghosh, Ervin Győri and Ryan R Martin* (rymartin@iastate.edu), Department of Mathematics, 428 Carver Hall, Iowa State University, Ames, IA 50011, and **Addisu Paulos** and **Chuanqi Xiao**. *Planar Turán number of the 6-cycle*.

Let $\text{ex}_{\mathcal{P}}(n, T, H)$ denote the maximum number of copies of T in an n -vertex planar graph which does not contain H as a subgraph. When $T = K_2$, $\text{ex}_{\mathcal{P}}(n, T, H)$ is the well studied function, the planar Turán number of H , denoted by $\text{ex}_{\mathcal{P}}(n, H)$. The topic of extremal planar graphs was initiated by Dowden (2016). He obtained sharp upper bound for both $\text{ex}_{\mathcal{P}}(n, C_4)$ and $\text{ex}_{\mathcal{P}}(n, C_5)$. Later on, Y. Lan, et al. (2019) continued this topic and proved that $\text{ex}_{\mathcal{P}}(n, C_6) \leq \frac{18(n-2)}{7}$. In this talk, we give a sharp upper bound $\text{ex}_{\mathcal{P}}(n, C_6) \leq \frac{5}{2}n - 7$, for all $n \geq 18$, which improves Lan's result. (Received August 28, 2020)