Ko-Wei Lih* (makwlih@sinica.edu.tw), P. O. Box 23-216 Taipei, Taipei City, 10699, Taiwan, and Daphne Der-Fen Liu (dliu@calstatela.edu). On the strong chromatic index of cubic Halin graphs.

A strong edge coloring of a graph $G$ is an assignment of colors to the edges of $G$ such that two distinct edges are colored differently if they are incident to a common edge or share an endpoint. The strong chromatic index of a graph $G$, denoted $s\chi'(G)$, is the minimum number of colors needed for a strong edge coloring of $G$. A Halin graph $G$ is a plane graph constructed from a tree $T$ without vertices of degree two by connecting all leaves through a cycle $C$. If a cubic Halin graph $G$ is different from two particular graphs $Ne_2$ and $Ne_4$, then we prove $s\chi'(G) \leq 7$. This solves a conjecture proposed in W. C. Shiu, W. K. Tam, The strong chromatic index of complete cubic Halin graphs, Appl. Math. Lett. 22 (2009) 754–758. (Received August 12, 2011)