1006-93-69   **Yimin Sun**, Laboratory of Systems and Control, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, 100080 Beijing, Peoples Rep of China, and **Lei Guo*** (`lguo@amss.ac.cn`), Laboratory of Systems and Control, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, 100080 Beijing, Peoples Rep of China. *On Global Controllability of Planar Affine Nonlinear Systems.*

Most of the existing results on controllability of nonlinear systems are concerned with local controllability or accessibility. In this paper, we present a necessary and sufficient condition for global controllability of general planar affine nonlinear systems with single-input. Our analysis is based on the use of Jordan-like Theorem, Poincare-Bendixson Theorem, Whitney's smooth extension theorem, and some other basic results in the geometric theory of ordinary differential equations. (Received February 03, 2005)