Meeting: 1006, Lubbock, Texas, SS 11A, Special Session on Future Directions in Mathematical Systems and Control Theory

1006-93-62 **Feng Liu**, Institute of Systems Science, Chinese Academy of Sciences, and **Daizhan Cheng*** (dcheng@iss.ac.cn), Institute of Systems Science, Chinese Academy of Sciences, 100080 Beijing, Peoples Rep of China. *Asymptotic Input-Output Linearization via Observer.*

This paper considers the problem of asymptotical input-output linearization of a class of nonlinear systems by designing an observer. The problem considered is to design an observer such that a feedback control based on observer can make the system's input-output approach to a linear response. Some straightforward verifiable sufficient conditions for solvability are provided. The proof is constructive, which provides a design method for the observer to realize the asymptotical linearization. Some examples are included. (Received February 02, 2005)