## CHAPTER 5 CONCLUSION

We introduced the new result of global stabilization by output feedback problem for a family of planar systems. For the situation in thesis, the system has nonlinear uncertain lower triangular function whose states are not differentiable. In addition, the nominal system is a genuinely nonlinear and its Jacobian linearization is neither controllable nor observable and might not exist. The proofs are constructive and explicitly show how to design a homogeneous dynamic output feedback control law to achieve global asymptotic stabilization of genuinely nonlinear systems. For two dimensional systems, our result is more general than [4]. In our future work, we will eventually extend our result to n dimensional systems.

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