

IV. CONCLUSIONS

For EPS system, assist motor, torque sensor and Electronic Control Unit are the three key components. The core of the controller is control strategy which not only reflects the EPS control functional requirements, the level of adaptive capacity and intelligence as well as the key bottleneck and technology of independent research and development.

The multi-agent system control strategy shows the advanced nature, superiority and feasibility of the theoretical analysis and engineering application of EPS control system. In different control model, the switching and function of each controller were effective and could meet the real-time control demand under different working conditions. It has practical engineering significance to the design of EPS motor control strategy, to the improvement and optimization of EPS function and to the steering manipulation safety and provides an effective control method for EPS system.

REFERENCES

- [1] Jiang Haobin et al. Hardware design and experiment research of automotive electric power steering system. The 3rd China-Japan Conference on Mechatronics 2006 Fuzhou, 2006, 68-71.
- [2] Aly Badawy et al. Modeling and analysis of an electric power steering system. SAE paper 1999-01-0399.
- [3] Zhao Jingbo, Chen Long, Jiang Haobin, et al. Design and full-car tests of electric power steering system. Computer and Computing Technologies in Agriculture. United States: SPRINGER, 2008: 729-736.
- [4] Ronald K. Jurgen. Automotive electronics handbook [M], Second edition, McGraw-Hill, Inc, 1999.
- [5] Zhao Jingbo. Research on Automotive EPS Hybrid Control System and its Theory, Design and Realization. Ph.D. Dissertation, Jiangsu University, 2009.
- [6] B. P. Zeigler, T. G. Kim, and H. Praehofer. Theory of Modeling and Simulation. Academic Press, Inc., Orlando, FL, USA, 2000.
- [7] R. E. Wray and R. M. Jones. An introduction to soar as an agent architecture. In R. Sun, editor, Cognition and Multi-Agent Interaction: From Cognitive Modeling to Social Simulation, pages 53-78. Cambridge University Press, 2005.