











Table 1. Error comparison of the prediction results of each model

Model	MAPE (%)	RMSE
BP	13.48	11.84
PSO-BP	8.58	7.92
CSBP	4.51	3.98

#### IV. CONCLUSION

Due to the large number of highly variable influencing factors, network traffic is non-linear and chaotic. The traditional method can hardly establish accurate prediction models. The performance of BP neural network is affected by parameter settings. To improve prediction performance, this paper proposes a novel network traffic prediction model CSBP and evaluates its performance via simulations. The prediction model does not depend on the accurate setting of the related parameters. Results show that CSBP solves the parameter optimization problem of the BP neural network, is able to describe complicated variations of network traffic more accurately, and improves network traffic prediction accuracy. Hence, the proposed model is very promising and provides insights into the establishment of prediction model. Further, how to apply the results of network traffic prediction to the actual traffic safety monitoring, network resource optimization and network protocol performance optimization is the main research work.

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**Liqiang Fan** received M.A. in Computational Mathematics from Shanghai Normal University, Shanghai, China, in 2005. Now he works at Langfang Normal University and has been employed as an associate professor. His current research interests include mathematical modeling and algorithm analysis. He has published many papers in related journals.