5. CONCLUSIONS

This paper probes deep into the influencing factors of flexural-tensile strength of asphalt mixture under cyclic thermal stress in cold regions. Considering the two most significant influencing factors, the author established a BPNN-based model to predict the flexural-tensile strength of asphalt mixture under cyclic thermal stress. The model enjoys a high fitness thanks to the training by a three-layer BPNN. The experimental results show that our model can preliminarily predict the flexural-tensile strength of asphalt mixture under cyclic thermal stress in the cold season, based on the huge amount of existing experimental data on asphalt mixture. The research findings effectively improve the working efficiency of personnel, the utilization rate of materials and the rationality of budget for asphalt concrete pavements.

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