



PREDICTION OF BRIDGE LIFE BASED ON SVM PATTERN RECOGNITION

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ABSTRACT—Based on the conception of bridge life and the traditional methods for evaluation of bridge life, in combination with the monitoring data obtained by bridge health monitoring system, this paper proposes a novel research method for predicting life of the bridge structure based on one SVM pattern recognition. Key indicators of bridge life are firstly extracted from monitoring information. The indicators constitute the “property” of structural state, then the assessment and prediction of bridge life based on monitoring information turns into a matter of pattern recognition. These “properties” are continuously extracted with time evolution, and the structure life is described as the period till these properties begin to appear in the “negative” area. Finally the SVM model is modified by using geometric chaotic analysis.

Keywords: Bridge Life, Bridge Health Monitoring, Pattern Recognition, Chaotic