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Probabilistic Method for Estimating Remaining Fatigue Life in Steel Bridges

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A fracture-critical highway bridge with active cracks was monitored using strain gages to determine the number and amplitude of stress cycles under service loads. The measured response was used to estimate the remaining fatigue life of fatigue-sensitive members. Previous calculations based on a deterministic approach revealed that the fatigue life had long been exceeded. Due to the scatter inherent in the fatigue data, a probabilistic approach for estimating the remaining fatigue life was developed. The probabilistic method allows a bridge owner to weigh the risk of maintaining a bridge past its design service life.

Доклад. Конференция по мониторингу технического состояния гражданских сооружений (CSHM-4), «Системы мониторинга технического состояния сооружений, обеспечивающие продление срока службы сооружений». Ноябрь, 2012. Берлин. Германия.

Ключевые слова:

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