



Код: 10942

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Investigation of AE Generation from Fatigue Cracks for Structural Health Monitoring in 2014 Aluminium Alloy

Дрезден, Германия, 2012 год

7 стр; формат: 23,5 x 16 см; библиографический список: 10 единиц

Acoustic Emission (AE) generation in 2014 aluminium sheets is investigated in this study. Fatigue tests were conducted with samples under constant amplitude loading, monitoring the rates of AE signals generated during fatigue crack propagation. The load output from the test machine was correlated with recorded AE signals as a means for AE source characterisation. The results showed 3 stages in AE generation with the vast majority of AE signals recorded occurring around or below the mean cyclic load from the emergence of crack to the period just before sample failure where they appeared across the entire loading range.

Доклад. 6-я Европейская конференция по мониторингу технического состояния сооружений, 2012. Редакция Кристиана Боллера.

Ключевые слова:

Содержание

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Acknowledgements