

Condition Monitoring of Railway Earthworks using Distributed Rayleigh Sensing

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Abstract : Climate change is predicted to increase the number of extreme weather events intensifying the strain on Railway Earthworks. This paper describes the use of Distributed Rayleigh Sensing to monitor low frequency activity on a vulnerable earthworks section prone to landslides alongside a railway line in Northern Spain. The vulnerable slope is instrumented with conventional slope stability sensors allowing an assessment to be conducted of the application of Distributed Rayleigh Sensing as an earthwork condition monitoring tool to enhance the resilience of railway networks.

Keywords : condition monitoring, railway earthworks, distributed rayleigh sensing, climate change

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