

# Project B8: Advanced Concepts for Condition Monitoring around the Wheel-Rail Interface

## Partners:

Loughborough University, University of Birmingham, University of Southampton

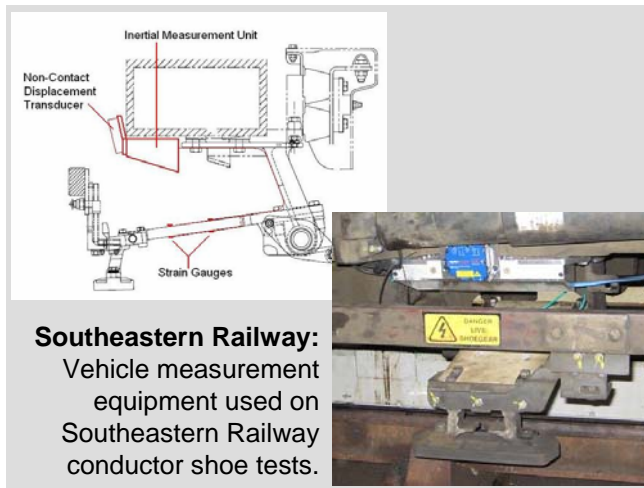
## Researchers:

Charles, Goodall, Weston, Stewart, Roberts, Priest, Powrie

## Background:

The primary objectives for this project are:

1. To establish methods and benefits of fusing the data obtained from vehicle and track instrumentation, with a view to providing more effective and robust indications of the condition of vehicles and track.
2. To develop concepts and techniques for providing meaningful monitoring of switches and crossings.

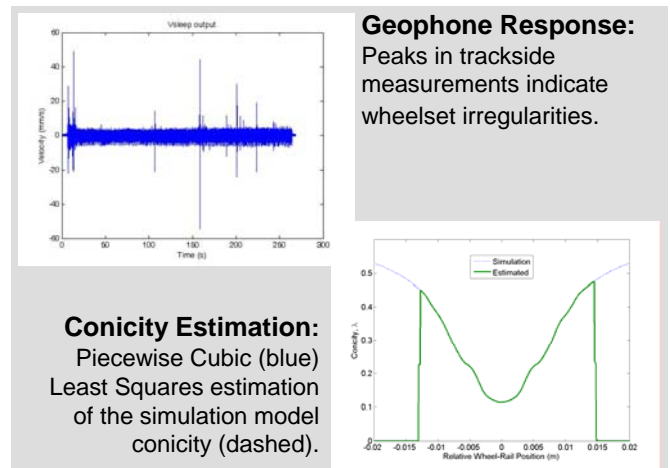


## Novel Aspects:

- Condition monitoring of the wheel/rail interaction as it happens on real vehicles.
- Fusing vehicle and lineside measurements.

## Contact:

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## Progress:

Vehicle and trackside (geophone) measurements have been taken on tests on the Southeastern railway. The results from these tests will be used to analyse the different condition monitoring approaches.

Simulation models have been used to develop feasible condition monitoring techniques, including Kalman Filter approaches and piecewise cubic least squares estimation.

## Future Work:

Analysis of the Southeastern test measurements, and application of the developed condition monitoring approaches.

Continue to develop techniques in simulation and application to test data.