INTERNAL NOISE PREDICTION FOR RAILWAY VEHICLES - PART 1: NOISE FIELDS AROUND RAILWAY VEHICLES

This is the first of three reports detailing the approach to the acoustic design of a railway vehicle that has been developed over a number of years by the Acoustics section of British Railways Research and Development Division. It deals with the prediction of the magnitude, spatial distribution and statistical distribution of rail/wheel and turbulent boundary layer noise which are the major sources of externally generated noise. The problem of internally generated noise, such as air conditioning noise, will be discussed in the third report. The way the noise enters the coach and the acoustic properties of the vehicle are the subject of the second report. The third report details a sample prediction for a MkIII coach and compares prediction with practice thus highlighting areas for further work.

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