

## INTERNAL NOISE PREDICTION FOR RAILWAY VEHICLES - PART 2: PREDICTION OF INTERNAL NOISE

Using a MkIII coach as an example, this report shows how the noise levels inside a vehicle can be predicted from information that is available during the design process.

The internal noise level is predicted using Statistical Energy Analysis and this report shows how:

- A complex structure, such as a MkIII coach, can be broken down into a number of relatively simple elements.
- The required acoustic properties can be calculated.
- These elements are linked together to form a complete model.

When predicting the noise level inside a railway vehicle, Statistical Energy Analysis is a useful tool. It allows various alternative constructions to be tried and can be used to identify acoustically weak areas. However, like any other modelling method the results achieved can only be as good as the model. To produce an accurate model it is essential to have some knowledge of how vehicles are in fact constructed so that likely problems, like gaps round doors, which do not show up on drawings, can be identified.