

A PRELIMINARY EXPERIMENT TO INVESTIGATE COMPARISONS BETWEEN TRACK QUALITY INDICES AND RIDE QUALITY INDICES

The experimental work described in this report was initiated as a result of a theoretical study that considered the optimum choice of spacial bandwidth of track measuring equipment used for track quality assessment and maintenance scheduling.

The topic was of interest because the bandwidth currently used on the High Speed Track Recording coach (HSTRC) (defined by reference to its limiting wavelength of 50m) was chosen at a time when the maximum speed of Intercity Services was 160 km/h. With the introduction of 200 km/h services it had been suggested in some quarters that the bandwidth might need extending to include longer wave irregularities to which rolling stock was responsive at the higher speed.

Measurements of track quality at '50m' and '100m' limiting bandwidth have been compared with ride measurements on various types of passenger rolling stock including APT (Advanced Passenger Train) and HST (High Speed Train). Analysis of the results suggest that there is no advantage in changing the bandwidth of measuring equipment currently used to assess track quality.