

Acoustic energy propagation around railways

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Abstract. The article deals with the issues of acoustic energy propagation around railways. The research subject was noise emission spreading into the surroundings during the passage of trains over a directly travelled steel bridge construction. Noise emissions were measured using direct measurements in the field. The measurements were performed in two measurement profiles. The noise exposures A_{LAE} measured near the steel bridge construction were compared against the noise exposures A_{LAE} captured on an open track. From the difference of these data, the noise level of the steel bridge structure was determined. Part of the research was to evaluate the effect of the reconstruction of the railway track superstructure on the acoustic situation in the given section of the railway track. The article describes the methodology of measurements, including the processing and evaluation of measured data. The article points out the noise levels of the steel bridge construction and assesses changes in the acoustic situation after the reconstruction.