

MUTUAL MEASUREMENTS OF VIBRATION SIGNAL IN DESCRIPTION OF DYNAMICS THE SYSTEM ELEMENTS

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The article shows the possibility of using complex (reciprocal) measures of vibration energy flow in the study of the dynamic state of selected transport structures. The general principles of the theory and practice of vibration diagnostics around vibration measurement and detailed statistical studies significant at the stage of processing the obtained information were used.

Many ways of acquiring and processing vibration symptoms have been presented in detail in previous authors' studies. Theoretical analysis and practical verification of the usefulness of selected measures of complex vibration processes, also confirmed by the indicated example of this work, indicates the possibility of their use in various applications.

Recognizing the need to improve the methods of testing elements of the structure of transport systems to assess their degradation state - this work presents fragments of research in the field of verification of the effectiveness of the proposed applications.

The problem description and study of changes in the component's destruction, materials, design, and construction are carried out using the measurement of simple and complex vibration diagnostics methods based on modal analysis. An important issue here is the description and propagation study of useful vibration energy is already widely used in diagnostic vibration and a little less used in modal analysis methods [1, 2, 3].

In this paper the suitability test measures in the monitoring complex process of the rail connections state with the base concrete, which is associated with many problems specific railway construction. The use of composite measurements mapping the interactions measured vibration process is simpler and less subject to error than the complicated procedures simulation based on numerical methods [3].

Słowa kluczowe: *miary wzajemne, drgania, elementy konstrukcji, transport*

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