

Course: Fundamental methods of dynamics of linear system

Lectures: Dynamic degrees of freedom. A system with one degree of freedom: natural vibrations, resonance, forced vibrations, damping. Systems with n degrees of freedom: the mass granulation method, stiffness matrix, damping matrix, natural vibrations, eigenvectors, harmonic forced vibrations. Continuous systems. The finite element method: equations of the motion of a bar element, the global equation of motion. Protection of structures against harmful effects of vibrations.

Project: Determination of the frequency of natural vibrations and internal forces, taking into account dynamic influences in the beam with one degree of dynamic freedom. Determination of the frequency and form of natural vibrations and internal forces, taking into account dynamic influences in a frame with several degrees of dynamic freedom.

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More info:

<https://webapps.uz.zgora.pl/syl/index.php?/course/showCourseDetails/1224461>