

On dynamics of a rigid block on visco-elastic foundation

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Abstract: We consider a rigid block installed on a visco-elastic foundation in such a way that the foundation interacts both with bottom and lateral sides (partially) of the block. The foundation is modeled using distributed springs and dashpots. It is supposed that oscillation amplitudes are small, so that the bottom of the block always remains in contact with the foundation. Oscillations of the system induced by horizontal harmonic motion of the foundation are studied. The influence of parameters of the system, as well as of the amplitude and frequency of the excitation, upon characteristics of such oscillations is analyzed.

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