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Entering the Excitation into a Mechanical System with Dynamic Eliminators of Vibration

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System consists of many objects connected by visco-elastic elements. The objects are equipped with freely rotating vibrators (pendulums) that can eliminate or increase the object's vibration. As the result of object's vibration there are vibration forces that move the vibrators to a new positions. The forces generated by freely rotating vibrators can compensate the excitation. If the excitation is too large and the vibrators are not able to compensate the ijth object's excitation then the vibrators occupied the position opposed to the excitation. They only compensate a part of the excitation and the vibration does not vanish. The rest of the excitation goes to the adjacent objects. If the force transmitted to the next objects is also too large then again a part of it goes to the adjacent objects, etc. In this way the excitation spreads in the system in the decreasing way. To prove this hypothesis the detailed analysis should be done. The results of the simulation show that the vibrators behave in the way as it was expected. The vibrators will compensate the excitation if its frequency is greater than the natural frequency of the objects. In opposite situation the vibrators will increase the vibrations.

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