

## Alternation of stability character in systems with positional non-conservative forces

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*Abstract:* The influence of non-conservative forces (both positional and velocity-dependent) upon stability of equilibrium positions of mechanical systems is discussed in many papers. In particular, it is well known that small dissipative forces can lead to instability. In the present work, the evolution of stability character of equilibrium is studied for the case when potential force corresponding to one generalized coordinate changes in presence of positional non-conservative forces. It is shown that, if parameters of the system satisfy certain conditions then the alternation of the stability character is observed (stability-instability-stability), as the stiffness in one of generalized coordinates increases. This effect is illustrated by the example of an aeroelastic system with two degrees of freedom.

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