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Gorbenko A.N. Analytical assessment of operating stability for rotor self-balancing based on the exact solution of the partial problem / A.N. Gorbenko // Internal combustion en-gines. – 2009. – №2. – P. 109-114.

This paper gives consideration to the particular case of self-balancing of the single-disk rotor with the narrowest sta-bility range. It is shown that in this case the stability analysis requires no transition to the rotating coordinates. The exact solution was obtained. It clearly shows the dependence of sta-bility boundary of self –balancing on rotor and self-balancer parameters. It has been analyzed. The existence of the certain parameters combination has been established, which prevents from providing self-balancing stability. Simple approximate expression was derived to determine the stability boundaries with good accuracy. Il. 2.Bibliogr. 8 names.