

## On specific energy capacity of flywheel energy storage

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### Abstract

© 2014 D. V. Berezhnoi, D. E. Chickrin and A. F. Galimov. The paper introduces basic methods of computational investigation for specific energy capacity of flywheel energy storage. In addition to the traditional estimation of energy capacity on the kinetic energy specific potential energy estimation of elastic strain is added. The possibilities of the use of various structural materials in the manufacture of flywheels is analyzed, some recommendations on the form of flywheel are given. "Extended" estimation of energy capacity which is used in this paper gives greater variability in the design of flywheel energy storage. In some cases it allows the reduction of the rotational speed of the rotor part of the structure.

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### Keywords

Flywheel, Kinetic and potential energy, Specific energy capacity