

## **Application of non-homogeneous magnetic fields for increasing of operation time of high-voltage vacuum switches**

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***The model of massive particle under Amper force action in non-homogeneous magnetic field is formulated for description and optimization the arc movement on contact surface of vacuum switch.***

*Keywords:* compressed electric arc, non-homogeneous magnetic field, magnetic pole tip.

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### **REFERENCES**

1. Belkin G. S., Commutation Processes in Electric Apparatus, Moscow, ZNAK, 2003 [in Russian].
2. Basten M. A. and Booske J. H., IEEE Trans. Plasma Science **22** (5), 960 (1994).
3. Kogen-Dalin V. V. and Komarov E. V., Calculation and Tests of Systems with Constant Magnets, Moscow, Energiya, 1977 [in Russian].
4. Denisov P. A., Abraamyan A. L., Complaint Yu. A. et al., Modern high technologies, № 9-1, 23 (2016) [in Russian].