

Passive magnetic suspension for UAV magnetic runway

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The launchers are used to take-off small UAV. Frequently launchers use elastic energy of rubber or powder cartridge to launch UAV. The modern launchers use linear electric drivers to running of UAV. The UAV is located on the sledge. The sledge has linear driver which ensures speed of sledge with UAV. The sledge moves above two linear passive magnetic guides [1]. In the article are presented passive magnetic system with superconductors. The system was designed for take-off and landing UAV with take-off weight about 2 kg. The sledge has four passive magnetic suspensions. Four pieces of superconductor YBCO sink in nitrogen. The magnetic array is used in construction of magnetic runway. The arrangement of magnets shapes magnitude and distribution magnetic field in the suspension.

References:

[1] K. Falkowski "Pasive magnetic suspensions", Military University of Technology, Warszawa 2016 (in Polish)