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Organization	„D. Ghitu" Institute of Electronic Engineering and Nanotechnologies, Chisinau, Republic of Moldova
Patent / patent application title	**JOSEPHSON SPIN VALVE FOR CRYOGENIC MEMORY**
Authors	SIDORENKO ANATOLIE, MORARI ROMAN, ZASAVITCHI EFIM
Patent / patent application N°	**Patent application: no. 2041 / 2020; s20200039 din 2020.04.30**
Description	Invenţia se referă la microelectronică, concret – la calculatoare. Invenţia poate fi utilizată pentru producerea de dispozitive de comutare, elemente de memorie şi registre de memorie pentru calculatoare de funcţionare rapide cu consum de energie scazut.Sarcina tehnică a invenţiei este diminuarea disipatiei de energie in valva de spin, ce duce la reducere esentialâ al consumului de energie. The invention relates to the field of design of base elements for novel supercomputers, but more specifically - to the construction and application of extra low energy consuming switching elements. It is elaborated Josephson spin valve with a weak link in form of a periodic structure composed from ferromagnetic (F) layers spaced by thin superconductor layers (s). Applications: the utilization of the competition and coexistence of superconducting (S) and ferromagnetic (F) correlations in constructed Josephson spin valve provide an increase in the performance and degree of integration of cryogenic memory storage devices and artificial synaptic elements for design of superconducting non-von Neumann computers, such as quantum computers and neuromorphic systems.
Domain	Informatics and hardware