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Nanolayers with Advanced Properties for Superconducting Spintronics

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The rapid development of semiconductor electronic industry requires revolutionary ideas for a jump to the next level of complexity. One of the possible level of 21st century microelectronics could be superconducting spin-sensitive electronics - spintronics. We are working for solutions of realization the superconducting spin-valve (spin-switch), the base component of spin-sensitive electronics with a high potential. The core of spin-valve comprises two separated ferromagnetic nano-layers and superconducting thin layer. In present work we report on main milestones of development of F/S/F - structures, giving description of the deposition process, characterization of grown samples, T_C characterization of F/S/F sets patterns and discussion.