Possible spin-triplet superconducting phase in the $La_{0.7}Sr_{0.3}MnO_3/YBa_2Cu_3O_7/ La_{0.7}Sr_{0.3}MnO_3$ trilayers

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The result of the transport and magnetic properties of the LSMO/YBCO/LSMO trilayer structures will be presented. An enhancement of the superconducting transition temperature was observed in magnetic field lower than the saturation field. Possible mechanism of such enhancement were discussed .
The measurements of differential conductivity in the current in-plane geometry demonstrate a sharp peak similar as was observed in the p-wave Sr_2RuO_4 superconductor.
Measurements in the current perpendicular to plane geometry demonstrate a "V" shape typical for the superconductor with d-wave symmetry.
The relevance of the experimental results to recent theoretical models for unconventional contacts will be discussed.