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The current carrying effects on the interplay between the superconductivity and the anti-ferromagnetism (AFM) in a multi-layered high T_c cuprates HAITAO QUAN, JIAN-XIN ZHU — We study the current carrying effects on the interplay between the superconductivity and the anti-ferromagnetism (AFM) in a multi-layered high T_c cuprates with various doping. Both the superconducting and AFM ordering are calculated by solving the BdG equation numerically. The current is calculated as a response to the phase gradient across the system. It is found that the AFM and SC can coexist in the presence of a current. In particular, we investigate how the AFM and the current will influence each other.

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