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# Supersymmetric Resonant Dark Matter: an Explanation to AMS-02 Positron Excess

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We construct a thermal dark matter model with the dark matter annihilations mediated by a resonance to explain the positron excess observed by PAMELA, Fermi-LAT and AMS-02 and to satisfy other experimental constraints. Based on a spontaneous breaking global symmetry of SU(3)/SU(2)xU(1), we provide a natural explanation for why the resonance mass is very close to twice of the dark matter mass. The pseudo Nambu Goldstone Bosons in the coset space, with a mass below one GeV, mainly decay into two muons and provide a good fit to the positron excess spectrum. I will also discuss other dark matter phenomenology of our model.

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