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Modified spatial distrubution of dark matter as solution to gamma-ray problem of positron anomaly explanation

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An excess of positrons in cosmic rays (CR) called positron anomaly was discovered more than decade ago and still stays an open-ended question in astrophysics. There is a big group of models involving annihilating or decaying Dark Matter (DM) purported to explain the anomaly. But they face an obstacle in the form of gamma-rays. Simple DM models tend to overproduce gamma-rays, leading to contradiction with isotropic gamma-ray background (IGRB). This work is dedicated to attempt to alleviate the contradiction by modifying the spatial distribution of DM. It's obtained that such an approach allows improving anomaly data fit considerably.

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