I investigate a (possible) nature of dark matter particles, which changes spontaneously other two particles. It is called decaying dark matter (DDM).

It is based on the linear order cosmological perturbation and Boltzmann equation of DDM particles.

In this poster, we show a constraint on parameter of DDM such as the lifetime.

Our model can reconcile the discrepancy of the Planck anomaly about the amplitude of the density fluctuation $\sigma_8$. 

\[ \sigma_8 \]